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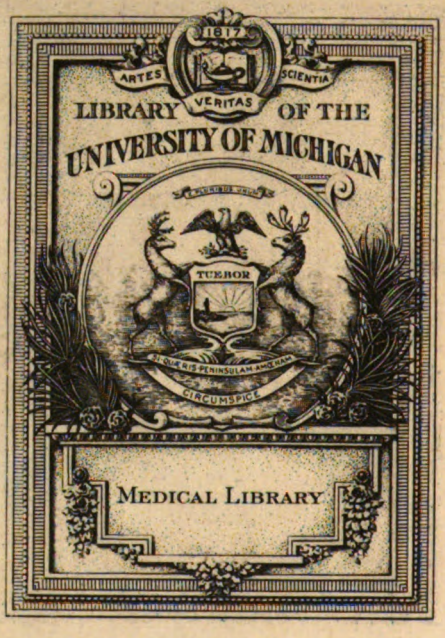

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TRANSACTIONS

OF

THE MEDICAL ASSOCIATION

OF THE

STATE OF ALABAMA

(THE STATE BOARD OF HEALTH)

ORGANIZED 1847—MEETING OF 1917

MONTGOMERY, APRIL 17-20

1917

MONTGOMERY, ALA.
THE BROWN PRINTING COMPANY
1917

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THE MEDICAL ASSOCIATION

OF THE

STATE OF ALABAMA

THE MINUTES OF THE MEETING OF 1917

FIRST DAY, TUESDAY, APRIL 17, 1917.

MORNING SESSION.

The Forty-fourth Annual Meeting of the Medical Association of Alabama convened in the Exchange Hotel, at Montgomery, at 11:05 A. M., April 17, 1917; the President, Dr. Henry Green, of Dothan, in the chair.

The President: I declare the forty-fourth consecutive annual session of the Medical Association of the State of Alabama now open for the transaction of such business as may come before it. We will be led in prayer by the Reverend O. P. Spiegel, Pastor of the Christian Church, of this city.

The Rev. Mr. Spiegel offered the following prayer:

O Lord of Hosts, we thank Thee for every place and for every occasion where men and women have met together to consider the betterment of human lives and the uplift of the human race. We thank Thee for these our friends and Thy friends and friends of each other who have come from all parts of our great State and nation to consider the work that is so near to their hearts. We pray Thy blessings, our Father, to rest upon them in their investigations and deliberations, and when these meetings are over may they go back feeling that they have been strengthened and helped by their conferences together. We pray Thee, our Father, that they may feel and realize that in these ministrations to human needs they may also be wonderfully helpful in the ministrations of our higher and diviner life, for who is it that has a physician without having the utmost confidence in him? Who is it that would send for a physician without he expects to take his advice?

Our Father, may we all realize at all times that these temples of ours are temples of the Holy Ghost.

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And now we pray Thee that we may look out of ourselves this morning into the great nation of which we are a part, and we humbly beg Thee, our Father, to bless our government, bless our President, strengthen him, and may he keep before his mind the righteousness and patience and truth and justice and love, even the love of the humanity of the world.

We pray Thy blessings, Lord, to rest upon everyone who is the object of our prayer. Lead us and guide us and protect us and help us, and may we feel, O Lord, that, from the gentle waves up to these temples of ours, it is the workmanship of God. And when we have finished our course with gladness, bring us, we pray Thee, to Thyself in heaven above. We ask it in the name and for the sake of Him whose work we are and whom we serve. Amen.

The President: Dr. P. S. Mertins, President of the Montgomery County Medical Society, will now formally welcome the Association in the name of the Montgomery County Medical Society.

ADDRESS OF WELCOME.

Dr. Mertins:

Mr. President and Gentlemen of the State Medical Association:

In the name of the Montgomery County Medical Society, I greet you and welcome you, one and all, to Montgomery. We are glad to have you with us, and we feel honored that you are here today. I say honored advisedly. During the course of the year we have many conventions which meet in Montgomery, but to my mind there is no meeting which has as great potentialities for the good of the whole people of the State as this convention of ours. Here from all parts of the State come the visitors, physicians and distinguished guests, all for the sole purpose of improving themselves in the arts of medicine, surgery and sanitation. When this convention adjourns and its members return to their homes, some even to the most rural parts of the State, they will carry with them the latest ideas and methods in surgery, medicine and sanitation, to the increased health, happiness and prosperity of the communities in which they live. It is for this reason that I say we feel honored in having you as our guests.

Your President has prepared for you a program filled with subjects timely and of absorbing interest, and I feel sure that

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we will all derive instruction from the papers which will be read which will lead us to better work and more improved methods during the coming year.

We hope that your stay here with us will be profitable, and that when you return to your homes you will have only pleasant memories of your visit here.

It had been the intention of the Montgomery County Medical Society to entertain you this year with its old-style hospitality. About two weeks ago when the President announced war with Germany and word came from Washington that we must husband our resources, and that in the South there would probably be a scarcity of food supply, we felt that it would be unwise to spend money in this way. We had one thousand dollars laid aside for the entertainment of this Association, but the Montgomery County Medical Society felt that it would be best not to spend this money now, and voted it for charity and patriotic purposes. (Applause.) In doing this we felt that we were doing what you would have wished us to do, and in making this donation to charity we have given it in your name, and we feel that it is yours as well as ours.

We are glad to see you here today, and in the name of the County Medical Society I extend to you again, one and all, a most hearty welcome and greeting. (Applause.)

The President: We will now have an address of welcome by Mr. M. H. Screws, on behalf of the city of Montgomery:

Mr. Screws: Mr. President, Ladies and Gentlemen: I feel entirely too humble to bear the name of the distinguished Mayor, and I am here only as a deputy for him, in my feeble manner to extend to you on his behalf and on behalf of the other members of the City Commission, one of whom is a physician, a cordial and hearty welcome to a body of men whom Montgomery feels honored to receive on this occasion. I trust that the personal assurances which you have already received have convinced you that you are indeed welcome to a community that is proverbial for its courtesy, its hospitality and its generosity, even to the innermost temples of our homes.

But on behalf of Mayor Robertson and on behalf of the local city government, I greet you at this joyous season of the year, in this hallowed old town, whose history is so filled alike with proud and sad recollections, and I bid you godspeed in the noble work which has summoned you hither.

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We feel that it is peculiarly appropriate that in a time such as the present, when not only Alabama and the South and America, but the entire world faces the crisis of its history, that a body of men carrying your noble ideals and your high intelligence and your trained skill should meet in Montgomery for the purpose of formulating your benevolent purposes. For these, my friends, are the times that try men's souls.

I say it is peculiarly appropriate that you should meet here, because in other days, the days of the South's olden and golden history, when Alabama marshalled her warrior sons and the clarion call went throughout Dixie for our land to give up its noblest and bravest and best, all the South turned to Montgomery as its meeting place. And now, in a later day, the same spirit animates the bosoms of the descendants of the men who in 1861 gave Montgomery immortal fame as the cradle of the Confederacy. (Applause.)

We are proud of our material resources, we are proud of its prosperity and industry which you will find on every hand, but you will find no true son or no true daughter of Montgomery who has any claim or any heritage which causes the same thrill as the fact that they are loyal sons and daughters of the Lost Cause. I wish you could have seen the magnificent outpouring of the citizens of this community a few nights ago, when, with but a few hours' notice in response to the call of the Mayor, there assembled at the Grand Theater here three thousand persons and thousands more were turned away. It was from start to finish one magnificent burst and pean of Southern patriotism. It proves what has been asserted for half a century, that in the crises of America to come her best asset will be the unyielding tenacity of Southern manhood and Southern womanhood.

Tomorrow night, my friends, Montgomery and this section is again to give an evidence of its patriotism and of the fact that our strength is to go out to the utmost to uphold the arms of that noble patriot, that magnificent statesman and that peerless leader of men, now gathered in our glorious President, Woodrow Wilson. (Applause.) My friends, even as we of the South look back with pride and devotion and tenderness upon the name of Jefferson Davis, and even as all of America recalls with pride the achievements of Washington and Lincoln, we of the South likewise shall in years to come, with all believers in true democracy over the face of the entire earth,

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look upon Woodrow Wilson as an exponent of human rights and equal freedom to all.

In a personal sense, my friends, the citizens of Montgomery feel proud to have such a magnificent body of trained men as yourselves assemble here. We feel that we have claims upon the medical fraternity. In the years gone by, while Montgomery played its part upon the field of war, likewise in your noble science it has had a most enviable role. Yesterday I conversed with one of the biggest brained and biggest hearted men I have ever known. He is a man about whom I have often wondered where he picked up all the odds and ends of information, those little things which you cannot get out of text-books, but which must be gotten through long years of experience. I refer to Dr. Luther Hill. He told me something of the old days of the medical fraternity in Montgomery. Here it was back in the fifties that Dr. J. Marion Sims began his career as an American physician. Dr. Sims, as you all know, is the father of modern gynecology. Here it was in Montgomery at the corner known as Five Points, and still bearing that title, that when one of Montgomery's women had met with an accident, he devised the instrument known as the Sims speculum, which physicians tell me has been an inestimable boon to womankind, and the means whereby your fraternity has been a godsend and a blessing to suffering womanhood. Dr. Sims, finishing here, carried this discovery to New York and Paris, and was received with distinguished acclaim on all hands, reaching perhaps the greatest heights of fame for a physician. He reached France during the days of the court of Napoleon III, and in addition to the other honors bestowed upon him there, was appointed court physician to the Emperor Napoleon. Thus Montgomery, through a member of your fraternity, forty years ago received that recognition and played that part on the soil of France which you today, and particularly you younger physicians, will in the next few weeks or months be called upon to play as America's and Alabama's part upon that same French soil. (Applause.)

Dr. Sims was at one time the President of the American Medical Association. Montgomery also had another President of the American Medical Association in the person of Dr. W. O. Baldwin, of fame in Montgomery in the years gone by. In addition Montgomery has had two Vice-Presidents of the

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American Medical Association, Dr. J. S. Weatherly, a man of great purity of character and wonderful skill in his chosen profession; and Dr. Richard Frazier Michel. Dr. Ben Baldwin could tell you things that would melt your hearts about that pure, that clean, that devoted gentleman, that knight without fear or reproach, the maxim of whose life was gentleness, kindness and courtesy, than whom we have known no purer citizen, no man with higher ideals of duty, no nobler conceptions of the obligations which he assumed when he put the letters "M. D." after his name. He was the first surgeon commissioned in the service of the historic Confederate army. Mrs. Kirkpatrick, who has made a life work of the study and compiling of the legendary lore of the Lost Cause, can bear out my statements. In November, 1860, he took his commission from South Carolina, which was the first to lead the Southern States away from the United States, and he participated in the bombardment of Fort Sumter and in the attack upon Fort Moultrie. Pursuing gallantly and bravely his task of physician in Virginia, he had the high honor of treating that leader of men, that man whom the South looks upon as its ideal exponent, the matchless Lee. He set a dislocated limb for Gen. Robert E. Lee during the Wilderness campaign. Returning to Montgomery he filled in the hearts of our citizens a place apart from all the rest of mankind here, a place which today is kept sacred and reverent to all those who appreciate nobility of character and purity of purpose. I speak with some feeling on this matter because I am named for that noble and gallant man. He was a man whose regard for his fellowmen was at all times in evidence. From the standpoint of skill and knowledge they tell me that he was without doubt the best anatomist that Alabama and perhaps the South has ever produced. And then his name, Michel, is a name which has a gallant history upon the scroll of fame in France, and that his father in the days of the Little Corporal was a surgeon to the Great Napoleon I and played there a worthy part.

And now, my friends, in conclusion, again I wish to assure you of a cordial and hearty welcome to Montgomery. These be trying times, and upon no body of men will the burden press more heavily nor the call be laid more strongly than upon the body of physicians. I say that to you, not because you are of the profession, but because it is a fact that is recognized today upon the battlefields of Europe. Then as much as are neces-

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sary the munition makers and the purveyors of food, so also is medical attention at the front necessary. The same gallant spirit which animated your Confederate soldier sires will, I know, animate the brave and dauntless physicians of Alabama in the years to come which will try them and which will sorely need them.

America has produced one name which will receive undying fame as the result of reverses which have been borne in this war. Robert W. Service is known as the Alaskan Kipling. He was a pacifist, but when this war broke out he felt it was his duty to play a man's part, and he joined the Red Cross. There is where your activity will lie, but there, just as much as upon the firing line, is fame to be won and service to be rendered. Robert W. Service had a younger brother. This lad in September last year, was killed in a charge upon the German trenches. This wonderful poet soul breathed out its anguish behind the English lines, and wrote a few stanzas that to me typify not only the spirit of the Canadian, but of the American, and not only of the Red Cross man, but what I believe is the sentiment of American physicians and of Alabama physicians when they come to play their part in the Red Cross service. The command of the English officers when they order their troops to take a trench in a bayonet charge is to "Carry on," and Service expresses the sentiment of the Red Cross and of your body, I believe, in these few words:

It's easy to fight when everything's right
And you're mad with the thrill and the glory,
It's easy to cheer when vict'ry is near
And wallow in fields that are gory;
It's a different song when everything's wrong,
When you're infernally mortal,
When it's ten against one, and hope there's none—
Buck up, little soldier, and chortle.

Carry on, carry on!
There's not much punch in your blow,
You're glaring and staring and hitting out blind,
You're muddy and bloody, but never you mind —
Carry on, carry on!
You haven't the ghost of a show;
It's looking like death, but while you've a breath,
Carry on, my son, carry on!

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And so in the strife of the battle of life
It's easy to fight when you're winning;
It's easy to slave and starve and be brave
When the dawn of success is beginning;
But the man who can meet despair and defeat
With a cheer, there's a man of God's choosing,
A man who can fight to Heaven's own height
Is the man who can fight when he's losing.

Carry on, carry on!
Things never were looming so black,
But show that you haven't a cowardly streak,
And though you're unlucky you never were weak—
Carry on, carry on!
Brace up for another attack.
It's looking like hell, but—you never can tell—
Carry on, old man, carry on!

There are some who drift out in the deserts of doubt,
And some in brutishness wallow;
There are others I know who in piety go
Because of a heaven to follow;
But to labor with zest and to give of your best
For the sweetness and joy of the giving,
To help folks along with a hand and a song,
Why there's the real sunshine of living.

Carry on, carry on!
Fight the good fight and true;
Believe in your mission, greet life with a cheer,
There's a big work to do, that's why you are here,
Carry on, carry on!
Let the world be the better for you,
And at last when you die let this be your cry,
"Carry on, my soul, carry on!"

On behalf of the city, gentleman, I take pleasure in welcoming to Montgomery a body of men with whom it is not unmeaning words upon their lips but the sentiments of their hearts and the practice of their lives to "Carry on, old man, carry on." (Prolonged applause.)

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The President: Gentlemen of the Association, I feel sure that I voice the sentiments of the Association when I say that we appreciate most sincerely the words of welcome that we have heard.

Dr. Edward Burton Ward, of Selma, Senior Vice-President, assumed the chair while the President delivered his annual message.

(For address of President see Part II.)

Dr. Green resumed the chair.

The President: The next thing on the program is the report of the Senior Vice-President, Dr. Edward Burton Ward, of Selma.

Dr. Ward: After listening to the address of welcome by Mr. Screws I am reminded of a story told of a visitor to Boston. This visitor was rambling around in the beautiful cemetery and he came across a most magnificent monument. He looked at it very closely, examined it and admired it, and read on it this epitaph: "Here lies a lawyer and an honest man." He walked all around and looked closely at this monument, and seemed to be very much interested and very much at sea to understand it. A gentleman walked up and said, "My friend, I see you are a stranger here. Have you found the grave of some distinguished friend?" He said, "No, I was wondering why two men were buried in the same grave." But after listening to this eloquent address by Mr. Screws I do not see how there could have been any question, for everything that Mr. Screws said was from an honest man.

REPORT OF THE SENIOR VICE-PRESIDENT.

E. B. WARD, SELMA.

Vice-President Marshall, in an address at Selma, a short time ago said he did not know what his duties were unless he was the tail to Woodrow's kite and the kite could not go up without its tail. I am not in the same position as Mr. Marshall. In addition to being one of the tails of Henry Green's kite there are some right strenuous duties connected with this office, especially strenuous if one succeeds in securing a full and complete report from all the counties of the Southern Division. These duties I have attempted to fulfill to the best of my ability.

Another year has passed since we last met in Mobile, or as the poet would express it:

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"Into the tomb of buried years
Another vanished year hath sped.
And like the vision of a dream,
That lingers when the dream hath fled,
Its fading footprints dot the sifting sand
To fade away when wavelets kiss the strand."

I am glad to see that so many of us have been permitted to meet together once more, for which we should render thanks to the Great Physician who shapes our destinies, "rough hew them as we will." Yet there are some absent faces. Some have fallen by the wayside and gone to "that undiscovered country from whose bourne no traveler returns." Some have broken down on the road and are waiting for the final summons. Right here I can not refrain from paying tribute to one whose presence we miss today. I refer to our distinguished ex-State Health Officer, Dr. Wm. H. Sanders. We can truly say he was a worthy successor to the gifted Cochran. He has given his best years to his work and has worn out his body in his earnest efforts toward the sanitary uplift of his State. Now his weary feet are rapidly bearing him down the western slope. The Medical Association of Alabama can well attest the value of his work, and the State owes him a debt of lasting gratitude. May his remaining days be full of peace, may the ruthless hand of suffering fall lightly upon him, and when the summons comes to join

"The innumerable caravan which moves to
That mysterious realm, where each shall take
His chamber in the silent halls of death,
May he go, not like the quarry slave at night
Scourged to his dungeon, but sustained and soothed
By an unfaltering trust, approach his grave
Like one who wraps the drapery of his couch
About him and lies down to pleasant dreams."

I am glad Dr. Sanders' mantel has fallen worthily when it descended upon the broad shoulders of the Welchman. Let us render him our united coöperation, let us extend him the glad hand of brotherhood, so that his career may even transcend in brilliancy that of his predecessor. If we do not rally to him the laity will not. It is at best, a most difficult task to teach people the importance of sanitary laws. Somehow they do not appreciate as they should the efforts of the doctor to perfect the physical welfare of a community. If they did it would not be such a Herculean task to get all-time

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health officers and other improved methods. Did you ever think of it, we doctors are the only class of intelligent people who work against our financial interests by promulgating the laws of health and preaching the doctrine of sanitation? I may be pardoned for mentioning this little tribute to the doctor.

A writer tells how a little child once preached a wonderful sermon to him. "Is your father at home?" was asked a small child, on our village doctor's doorsteps. "No," she said, "he's away." "Where do you think I could find him?" "Well," he replied, with a considering air, "you've got to look for him some place where people are sick, or hurt, or something like that. I don't know where he is, but he's helping somewhere."

Helping somewhere! How true.

When the millenium comes or the war is over we may then be appreciated as we should be, and take our places among the great of the land. Until then we must be at attention, on guard and fight to the end. *We must stand shoulder to shoulder*, ever remembering, "Conquer we shall, but we must first contend, 'tis not the fight that crowns us, but the end."

Do you know that there is nowhere greater need for strengthening the golden chain of the brotherhood of man than in the ranks of the medical profession? To you who with young manhood's elastic steps are pressing forward upon the pathway of life, with eager expectant eyes fixed upon the summit of life's bright promises and to you my friends of maturer years, whose feet have climbed the hill of life and reached the summit, and standing for awhile, look back upon battles fought and victories won, and you whose heads are crowned with the snows of many winters and whose feet are rapidly bearing you down the western slope of time; the sentiment I would offer and have you take into your hearts and express in your lives are these words of the poet:

"Let me live in a house by the side of the road,
Where the race of men pass by.
The men who are bad and the men who are good,
As good and as bad as I.
I would not sit in the scorner's seat,
Or hurl the cynic's ban,
But let me live in the house by the side of the road,
And be a friend of man."

With this parting injunction I herewith submit my final report as Senior Vice-President of the Medical Association of the great State of Alabama, *and here we rest.*

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REPORT AS TO THE STATUS OF THE MEDICAL SOCIETIES OF THE SOUTHERN DIVISION FOR THE YEAR 1917.

	COUNTIES.	Number of members.	Number of non-members.	Increase of membership.	Decrease of membership.	Number of meetings held last year.	Average attendance.	Number of papers read.	Number of illegal doctors in county.	Number of prosecutions.	Increase of illegals.	Decrease of illegals.	Health Officer's salary.	Success in the collection of Vit. and Mort. Statistics.
1	Autauga	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
2	Baldwin	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
3	Barbour	26	7	3	3	5	13	4	.....	.....	.....	.....	$ 750.00	Good
4	Bullock	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
5	Butler	18	4	.....	.....	12	5½	4	1	.....	1	.....	550.00	Good
6	Chilton	16	7	.....	10	6	7	4	1	.....	.....	.....	500.00	Fair
7	Choctaw	16	4	1	.....	4	6	3	1	.....	.....	.....	400.00	Good
8	Clark	26	3	1	1	3	12	4	1	.....	.....	.....	585.00	Good
9	Coffee	19	4	.....	2	13	10	4	.....	.....	.....	.....	600.00	Good
10	Conecuh	17	3	.....	.....	1	8	.....	1	.....	.....	.....	407.00	Good
11	Covington	28	.....	.....	1	6	9	7	.....	.....	.....	.....	600.00	Excel.
12	Crenshaw	12	9	4	.....	12	6	.....	.....	.....	.....	1	500.00	Good
13	Dale	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

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14	Dallas	45	4	6	2	8	7	4				800.00	Good
15	Elmore	22		1		8	17	22				2,100.00	Good
16	Escambia	22	3										Good
17	Geneva	33	4	4		4	8	12	1	1	1	600.00	Good
18	Greene	9	5		2	3	6.66	6					Mod.
19	Hale	12	6		2	5	4	1				480.00	Good
20	Henry												
21	Houston	40	2	3		12	15	25	2			700.00	Fair
22	Lee	22	7		2	6	8	4				600.00	Fair
23	Lowndes												
24	Macon	8	8		1	4	5					460.00	Good
25	Marengo	20	8			4	12	10	1			800.00	Good
26	Mobile	67	42	1		27	10.4	10				1,593.00	Fair
27	Monroe	19	8		2	2	12	4				516.00	Good
28	Montgomery												
29	Perry	10			2	2	4					600.00	Good
30	Pike	25	5	1		12						500.00	Good
31	Russell	12	1		2	4	5	4	1			506.40	Aver.
32	Sumter	17	11		4	5	5					600.00	Good
33	Washington	12		3	2	3	5	9	1			268.00	90%
34	Wilcox	31		1		1	20					574.00	Good

NOTE—Counties left blank failed to furnish reports. The ratings in collection of vital statistics are as the societies see themselves, not as others see them.

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Under the head of remarks on the general condition of the society, very few commented. You can readily see by looking over the table that there is, in some of the societies, a marked improvement over last year, while in some of the others there is that same lethargy that has characterized them in the past. It is to be hoped that they will wake up and rally their forces and improve. From the counties left blank in the table I failed to secure any reports whatever, notwithstanding several earnest importunities.

Autauga County—No report.

Baldwin County—No report.

Barbour County—Society in fairly good condition.

Bullock County—No report.

Butler County—Hold monthly meetings; attendance small; interest in the society not what it should be.

Chilton County—A wave of indifference has come upon its members.

Choctaw County—Condition of society much improved. Births came up to the expectation of the Registrar, but fell short on deaths.

Clark County—No remarks.

Coffee County—Our society not as good as in 1915, but we have infused new life in the work, and will again come forward. Negro woman successfully prosecuted and run out of Coffee county, but is now at Bellwood, Geneva county, near the Coffee county line. Suppose they failed at Geneva because the solicitor did not know the law. (Perry Thomas decision.)

Conecuh County—Fair only.

Covington County—No remarks.

Crenshaw County—Conditions have greatly improved during the last year.

Dale County—No report.

Dallas County—Condition of society not very encouraging. Making strenuous efforts to get all-time health officer. Not the interest taken in society as there should be.

Elmore County—As usual, this county always comes up with a good report, showing the good results of an all-time health officer. Elmore county has all-time health officer (Dr. O. S. Justice), salary $2,100.00. Society flourishing; more interest than ever before. Fine attendance.

Escambia County—Secretary of this society is absent serving his country.

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Geneva County—No remarks.

Greene County—No remarks. I suppose conditions are so bad Cameron ashamed to report.

Hale County—No remarks.

Henry County—No report.

Houston County—This county has an all-time health officer and his salary is 20 cents per capita of county population. The county population is right at 35,000, making his salary about $700.00 a year.

Lee County—No remarks.

Lowndes County—No report.

Macon County—No remarks.

Marengo County—Not as much interest taken as when all officers were elected annually.

Mobile County—No remarks.

Monroe County—No remarks.

Montgomery County—No report.

Perry County—No remarks.

Pike County—We have a very good society and hold regular monthly meetings.

Russell County—No report.

Sumter County—No remarks.

Washington County—One counsellor, one practitioner of fifty-eight years, one not paying dues this year.

Wilcox—The society in good condition.

Dr. William C. Maples, of Scottsboro, then read the report of the Junior Vice-President.

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REPORT OF JUNIOR VICE-PRESIDENT.

W. C. MAPLES, SCOTTSBORO.

Mr. President and Gentlemen of the Medical Association of the State of Alabama:

On examining the reports of the Vice-Presidents for the last few years I find there has been but little change in the status of the county medical societies in the Northern Division of the State. There is a doleful monotony about these reports, especially as regards the scientific work of the county societies. I am quite certain that only a few counties in the Northern Division are doing any scientific work worth speaking of. Jefferson county is in a class by itself. This society meets weekly and the scientific work is of a high order. In counties in which there are no large towns or cities the societies are doing practically nothing as scientific bodies.

There are some exceptions to the general rule, however. According to the secretary's report, Bibb county has quite a live county society. He says: "Our society has gone from quarterly to monthly meetings. We had a series of seven post-graduate lectures before the society by men of note. We had four public meetings in which public health matters and community welfare work were discussed."

The secretary of Walker county reports the condition of his society as "very good;" but it is doubtful if this society is doing much scientific work, for only nine papers were read last year at twelve meetings, with a membership of 48. This society has an all-time health officer, and doubtless there has been a wonderful improvement in health work. There are many reasons, which it is not necessary for me to enumerate, that make an all-time health officer necessary for much health work to be done. It requires an amount of enthusiasm and sacrifice to have a live medical society in sparsely populated counties that seems to be wanting at the present, as the following quotations from secretaries' reports show: "Existing, that's all. Members will pay dues but never come to a meeting during the entire year," writes one. I am sorry to say that that is about the condition of my own county society. Another says: "Our society is not what it should be," and another: "Very little interest manifested by members." Several say: "Attendance not good as it should be." One secretary says: "There is but very little enthusiasm in the society. Several members are sore about the health officers holding office three years. We have been electing one each year,

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and it was the will of the society that the practice continue. Others took that out of our hands, and by so doing took the life out of a number of our members." I am quoting what this secretary says because I believe this election of county health officers has been a bone of contention in a large number of county societies. To many such a conclusion may sound ridiculous, but I am certain it is correct, nevertheless.

As boards of health I believe there has been some improvement in nearly all the counties. Several of the counties now have all-time health officers, and in those counties, of course, there has been great improvement in health work; but everywhere the sentiment is growing among doctors that the medical profession has a patriotic duty to perform in the advancement of the best interests of the people. This feeling is strongest among the best educated and most intelligent physicians, and finds a suitable response only among the most intelligent people. This improvement in health work is largely due to individual effort prompted by this feeling. It is becoming much more frequent that doctors, in treating an infectious disease, tell the patient or family the nature of the disease and how it may be prevented, thus doing a very important educational work.

I have been too busy to visit any of the county societies, but I feel that the cause has not suffered on account of this, as I am not a success as a medical organizer. I have tried hard to have a good Society in Jackson county, and I have signally failed.

I attach herewith a tabulated statement of condition of counties heard from as reported by the secretaries.

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REPORT AS TO THE STATUS OF THE MEDICAL SOCIETIES OF THE NORTHERN DIVISION FOR THE YEAR 1916.

	COUNTIES.	Number of members.	Number of non-members.	Increase of membership.	Decrease of membership.	Number of meetings held last year.	Average attendance.	Number of papers read.	Number of illegal doctors in county.	Number of prosecutions.	Increase of illegals.	Decrease of illegals.	Health Officer's salary.	Success in the collection of Vit. and Mort. Statistics.
1	Bibb	20	5	2	5	12	10	7	.....	.....	.....	.....	$ 400.00	Good
2	Blount	14	12	1	.....	5	6	.....	.....	.....	.....	.....	425.16	Good
3	Calhoun	36	15	7	3	11	8	.....	.....	.....	.....	.....	800.00	Good
4	Chambers	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
5	Cherokee	11	5	3	.....	4	6	4	2	1	.....	.....	.....	Fair
6	Clay	21	1	1	.....	3	6	.....	2	.....	.....	.....	400.00	Fair
7	Cleburne	8	2	1	.....	4	6.4	.....	1	.....	.....	.....	265.00	Fair
8	Colbert	16	2	.....	.....	4	6	.....	1	.....	.....	.....	496.00	Good
9	Coosa	15	1	.....	.....	4	8	.....	.....	.....	.....	.....	360.00	Med.
10	Cullman	24	7	1	.....	12	10	4	.....	.....	.....	.....	800.00	Satis-
11	DeKalb	20	15	.....	1	7	8 3-7	*	1	1	.....	.....	425.00	Fair
12	Etowah	38	11	1	.....	12	15.6	7	.....	.....	.....	.....	736.00	Good
13	Fayette	11	6	.....	3	4	6	.....	.....	1	.....	1	350.00	Fair

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14	Franklin													
15	Jackson	21	11	3		6	7	2					605.00	Good
16	Jefferson	292	135	1		50	70	90					4,000.00	Good
17	Lamar	16	7	1		4	7						365.00	Fair
18	Lauderdale	23	5		2	8	4		2	1			615.60	Good
19	Lawrence	13	1			4	8	1					300.00	Good
20	Limestone	13	4			11	6.3	11					600.00	Fair
21	Madison	56	2		1	12	13½	6					860.00	Good
22	Marion	20	6	2	1	4	12	†	1			1	350.00	90%
23	Marshall	24	9			4	12	‡					300.00	Good
24	Morgan													
25	Pickens	24	8		2	6	8	2	1	1			500.00	Fair
26	Randolph	20	4		1	4	14						500.00	Good
27	Shelby	18	6		4	6	7	10	1	1	1	1	540.00	Good
28	St. Clair	19	6			4	8¼	3	2				400.00	Good
29	Talladega	28	9	1		9	12	12	1	1	1		3,000.00	Good
30	Tallapoosa	30	2	1		4	15	6	1	1			535.00	
31	Tuscaloosa	42	21	3	14	9	18	7	3	3			3,200.00	Good
32	Walker	48	3		4	12	15	9					2,500.00	Good
33	Winston	12			2	4	7½	4					260.00	95%

NOTE—Grading as to collection of vital statistics is very inaccurate.

* Discussions every meeting.

† Several.

‡ Paper read occasionally.

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The Secretary, Dr. H. G. Perry, made his report as follows:

REPORT OF THE SECRETARY.

HENRY GAITHER PERRY, MONTGOMERY.

The Secretary respectfully submits the following report:

Since the last meeting Dr. William Henry Sledge, of Mobile, a Life Counsellor, and Dr. Reuben Fletcher Monette, of Greensboro, a Junior Counsellor, have died. No Counsellors have resigned. All of the Counsellors-elect, six in number, have accepted the honor conferred upon them by this body, have signed the Counsellor's pledge and have paid their dues.

The names of the members of the Councils and Standing Committees are published on pages 156 and 157 of the Transactions for last year. It will be the duty of the incoming President to appoint one Delegate to the American Medical Association and one member on each of the Councils and Standing Committees.

Since the publication of the Transactions, at the request of the Secretary of the American Medical Association, Dr. Green, our worthy President has appointed a Committee on Social Insurance, as follows: P. J. Howard, M. J. Bancroft, and G. J. Winthrop, of Mobile; J. H. Blue and F. P. Boswell, of Montgomery; W. H. Wylie, of Birmingham, and W. H. Blake, of Sheffield.

The American Committee on Medical Preparedness has appointed a State Committee on Medical Preparedness for Alabama, consisting of the following: J. N. Baker, of Montgomery, Chairman; Henry Green, of Dothan, President Medical Association State of Alabama, ex-officio; H. G. Perry, of Montgomery, Secretary; R. S. Hill and J. H. Blue, of Montgomery; H. P. Cole, of Mobile; F. G. DuBose, of Selma; Earl Drennan and L. C. Morris, of Birmingham; and F. P. Pettey, of Albany. This Committee will make a report at the proper time.

Your Secretary has responded to all calls for information, has distributed blanks for reports of secretaries of county societies, has edited and distributed the Transactions and has endeavored to perform all the duties pertaining to the office.

The Secretary has incurred the following expenses:

To assistance in mailing programs, circular letters, and reports	$12.50
To postage	6.00
To express and incidentals	1.50
Total	$20.00

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Dr. Perry made the following report of the Publishing Committee:

REPORT OF THE PUBLISHING COMMITTEE.

The Publishing Committee had 1,600 copies of the annual volume of Transactions printed, which were distributed as follows:

To members of county medical societies	1,237
To Counsellors	140
To delegates	92
To correspondents	5
To State Boards of Health	50
To libraries and medical journals	50
Deposited in the office of the State Board of Health	26
Total	1,600

Respectfully submitted,
H. G. PERRY, Chairman,
J. N. BAKER,
W. H. SANDERS.

Dr. Perry: All of you received preliminary programs in which there was, in addition to the papers in the regular program, a symposium on diseases of children, which is to be participated in by some members of our Association and some visitors from outside of the State. Through my fault, I suppose, in making up the copy for the full program this symposium was very unfortunately omitted. The papers will be called as they were listed in the preliminary program. I earnestly ask the pardon of the Association and especially of those who are in that symposium.

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REPORT OF THE TREASURER.

JACOB U. RAY, Treasurer,

In Account With

THE MEDICAL ASSOCIATION OF THE STATE OF ALABAMA.

April 18, 1916. To Cash on hand as per last report (See Transactions 1916, page 29) $68.42

To cash received from following Counsellors:

1916.

Apr. 6. B. F. Bennett
Apr. 6. W. J. McCain
Apr. 8. W. C. Maples
Apr. 10. F. A. Webb.
Apr. 12. J. S. Crutcher
Apr. 12. W. H. Wilder.
Apr. 13. W. D. Partlow
Apr. 13. W. S. McElrath
Apr. 13. S. P. Hand
Apr. 13. L. C. Morris
Apr. 13. J. D. S. Davis
Apr. 13. L. R. Burdeshaw
Apr. 13. E. M. Prince
Apr. 13. J. C. Taylor
Apr. 13. D. L. Wilkinson.
Apr. 14. J. N. Furniss.
Apr. 14. J. T. Haney
Apr. 14. M. C. Schoolar
Apr. 14. A. D. James
Apr. 14. Henry Green
Apr. 14. J. R. Horn
Apr. 14. W. B. Hendrick
Apr. 14. W. S. Britt
Apr. 14. W. R. Jackson
Apr. 14. W. E. Morris
Apr. 14. W. M. Cunningham
Apr. 14. W. F. Betts
Apr. 14. S. W. Welch
Apr. 14. C. S. Chenault
Apr. 14. M. S. White.
Apr. 15. A. J. Peterson
Apr. 15. N. T. Underwood
Apr. 15. H. J. Sankey
Apr. 15. S. A. Gordon
Apr. 15. E. G. Givhan
Apr. 15. J. G. Palmer
Apr. 15. R. H. Baird
Apr. 17. W. P. McAdory
Apr. 17. L. O. Hicks.
Apr. 17. J. U. Ray
Apr. 17. H. P. McWhorter
Apr. 18. W. H. Oates
Apr. 18. R. L. Hughes
Apr. 18. M. S. Davie
Apr. 18. J. C. McLeod
Apr. 18. L. P. Esslinger
Apr. 18. H. S. Ward
Apr. 18. R. L. Justice
Apr. 18. D. F. Talley
Apr. 18. J. M. Watkins
Apr. 18. H. W. Blair
Apr. 19. T. J. Brothers
Apr. 19. F. P. Petty
Apr. 19. W. T. Pride
Apr. 20. G. L. Gresham
Apr. 19. C. A. Thigpen
Apr. 19. O. S. Justice
Apr. 19. A. L. Harlan
Apr. 19. H. T. Heflin

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Apr. 20.	J. D. Bancroft	Mar. 13.	J. D. Heacock
Apr. 20.	W. M. Faulk	Mar. 27.	J. P. Turner
Apr. 20.	W. D. Gaines	Apr. 12.	W. W. Harper
Apr. 20.	M. D. Smith	Apr. 13.	F. A. Lupton.
Apr. 22.	S. F. Mayfield	Apr. 16.	E. B. Ard
Apr. 24.	B. B. Sims	Apr. 17.	C. A. Mohr
Apr. 25.	C. A. Poellnitz	Apr. 17.	B. L. Wyman
Apr. 28.	A. N. Steele	Apr. 17.	E. B. Ward
May 4.	J. O. Kennedy	Apr. 17.	E. M. Harris
May 5.	J. N. Baker	Apr. 17.	Robert Goldthwaite
May 9.	J. L. Gaston	Apr. 17.	J. P. Stewart
1917.		Apr. 17.	R. S. Hill
Mar. 7.	Mack Rogers	Apr. 17.	C. L. Guice
Mar. 7.	J. W. McClendon.	Apr. 17.	J. L. Bowman
Mar. 9.	P. T. Fleming	Apr. 19.	M. L. Molloy
Mar. 9.	Seale Harris	Apr. 19.	M. T. Gaines
Mar. 9.	J. S. McLester		

Total number paid to April 16th, 91 Counsellors..... $910.00

Received from Counsellors-elect:

1916.

May 4.	J. M. Austin	$ 5.00
May 12.	L. E. Broughton	5.00
May 13.	P. M. Lightfoot	10.00
May 13.	W. O. Collins	10.00
May 24.	W. A. Stallworth	10.00
June 3.	S. C. Cardon	5.00
	Total	$45.00

Cash received from delegates to Mobile meeting, 1916, as follows:

Autauga—None.
Baldwin—V. M. Schowalter, J. H. Hastie.
Barbour—D. B. Faust, R. O. Norton.
Bibb—C. P. Martin, A. N. Walker.
Blount—J. T. Hancock, D. S. Moore, Sr.
Bullock—None.
Butler—R. A. Moorer, A. L. Stabler.
Calhoun—W. B. Arberry, M. J. Williams.
Chambers—W. M. Avery.

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Cherokee—S. G. Carden, W. A. Sewell.
Chilton—None.
Choctaw—F. E. Christopher.
Clarke—C. I. Dahlberg, J. G. Bedsole.
Clay—None.
Cleburne—Baxter Rittenberry.
Coffee—D. P. Pruitt.
Colbert—None.
Conecuh—J. W. Hagood, W. M. Salter.
Coosa—None.
Covington—L. E. Broughton.
Crenshaw—H. A. Donovan.
Cullman—E. D. McAdory—Alvin Culpepper.
Dale—S. B. Bell.
Dallas—S. B. Allison, W. H. Taylor.
DeKalb—J. B. Phillips, W. S. Duff.
Elmore—Virgil Dark, J. M. Austin.
Escambia—L. B. Farrish, J. P. McMurphy.
Etowah—W. T. Cantrell, H. V. Baskin.
Fayette—W. W. Long.
Franklin—None.
Geneva—G. W. Williamson, W. F. Matheny.
Greene—None.
Hale—None.
Henry—G. L. Wood, L. S. Nichols.
Houston—I. C. Bates, P. O. Chaudron.
Jackson—Hugh Boyd, M. M. Duncan.
Jefferson—M. Y. Dabney, C. W. Shropshire, A. F. Toole, Burr Ferguson, G. H. Walsh, W. S. Rountree, R. G. McGahey.
Lamar—None.
Lauderdale—None.
Lawrence—None.
Lee—G. H. Cooper, C. S. Yarbrough.
Limestone—M. W. Dupree, H. D. Powers.
Lowndes—C. E. Marlette.
Macon—C. E. Williams.
Madison—W. C. Hatchett, W. B. England.
Marengo—C. N. Lacey, T. C. Savage.
Marion—H. W. Howell, M. C. Hollis.
Marshall—None.
Mobile—P. D. McGhee, Eugene Thames, J. N. Beck.

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Monroe—D. R. Nettles, J. J. Dailey.
Montgomery—W. W. Dinsmore, G. J. Greil, P. B. Moss, C. H. Rice.
Morgan—R. B. Sherrell, F. L. Chenault.
Perry—E. L. Fuller.
Pickens—S. H. Hill, E. B. Durrett.
Pike—L. M. Tompkins, J. W. Beard.
Randolph—None.
Russell—None.
St. Clair—None.
Shelby—J. L. Batson.
Sumter—None.
Talladega—J. A. Sims, C. L. Salter.
Tallapoosa—L. B. Allen, J. T. Banks.
Tuscaloosa—C. L. LeBaron, B. S. Carpenter.
Walker—D. H. Chilton, J. H. Davis.
Washington—G. C. McCrary, W. A. Thompson.
Wilcox—P. V. Spier, E. E. Williams.
Winston—M. L. Stephens, T. M. Blake.

Total from 96 delegates at $5.00 each..... $480.00

Received from county societies for 1916 meeting:

Autauga	$ 10.50
Baldwin	7.50
Barbour	31.50
Bibb	22.50
Blount	18.00
Bullock	25.50
Butler	19.50
Calhoun	48.00
Chambers	12.00
Cherokee	7.50
Chilton	21.00
Choctaw	4.50
Clarke	25.50
Clay	9.00
Cleburne	9.00
Coffee	30.00
Colbert	10.50
Conecuh	15.00
Coosa	15.00

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Covington	39.00
Crenshaw	7.50
Cullman	34.50
Dale	18.00
Dallas	49.50
DeKalb	25.50
Elmore	27.00
Escambia	16.50
Etowah	48.00
Fayette	19.50
Franklin	10.50
Geneva	4.50
Greene	10.50
Hale	18.00
Henry	13.50
Houston	24.00
Jackson	24.00
Jefferson	393.00
Lamar	18.00
Lauderdale	1.50
Lawrence	6.00
Lee	22.50
Limestone	13.50
Lowndes	.....
Macon	15.00
Madison	30.00
Marengo	24.00
Marion	22.50
Marshall	3.00
Mobile	81.00
Monroe	21.00
Montgomery	78.00
Morgan	37.50
Perry	16.50
Pickens	28.50
Pike	31.50
Randolph	28.50
Russell	3.00
St. Clair	24.00
Shelby	22.50
Sumter	19.50

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Talladega	33.00	
Tallapoosa	13.50	
Tuscaloosa	69.00	
Walker	22.50	
Washington	9.00	
Wilcox	25.50	
Winston	16.50	
Total		$1,861.50

RECAPITULATION OF RECEIPTS.

Cash on hand last report	$ 68.42	
Cash received from 91 Counsellors	910.00	
Cash received from 6 Counsellors-elect	45.00	
Cash received from 96 delegates	480.00	
Cash received from 66 counties, dues	1,861.50	$3,365.02

LESS DISBURSEMENTS.

Paid H. G. Perry for postage and sundry exp	$ 20.25	
Paid W. G. Young, Official Stenographer	225.30	
Paid F. M. Inge, expense Mobile meeting	85.00	
Paid W. H. Sanders, for room for Board Censors	10.00	
Paid C. P. Martin, for assistance at Mobile meeting	10.00	
Paid Brown Printing Co., sundry printing	129.30	
Paid J. N. Baker, President, postage and expenses	10.00	
Paid H. G. Perry, salary as Secretary to April, 1917	400.00	
Paid W. W. Moore, dues refunded	3.00	
Paid J. U. Ray, salary as Treasurer to April, 1917	200.00	
Paid Brooks & Crawford, consultation and advice	25.00	
Paid G. A. Thomas & Co., premium on Treasurer's bond	8.00	
Paid Brown Printing Co., Transactions, cuts, postage	1,793.27	
Paid Brown Prtg. Co., letter heads and envelopes	21.02	
Paid W. H. Sanders payment on note to Jerome Cochrane Monument Fund	200.00	
Paid St. Louis Button Co., merchandise	23.80	
Paid J. U. Ray, Treasurer, postage account to date	9.41	$3,173.35
Balance cash on hand		$ 191.67

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In submitting this report I wish to call the attention of the Association to the following facts:

The Transactions show members in good standing in their county societies to be		1,815
Less Life Counsellors	40	
Less Senior and Junior Counsellors	92	
Less Delegates at Mobile	96	228
Leaving		1,587

who ought to have paid dues at $1.50 each, while only 1,241 paid the State dues leaving a technical deficit of $519.00 that ought to have been paid to the Association. Three hundred and forty-six members paid no dues.

I hope the Association will note these figures and see if there is not a remedy to stop this annual deficit, as the records show this manner of things has been going on for several years. If every member whose name appears on his county society roll in the volume of Transactions paid the $1.50 State dues it would only take a short time to liquidate the debts of the Association and have a reasonable surplus; in fact I believe that the State dues in three years could safely be reduced to $1.00 per member.

The President: All these reports will be referred to the Board of Censors as provided by the Constitution.

The President then called for reports of standing committees.

Dr. Glenn Andrews, Chairman of the Committee on Tuberculosis, was not present, and this report was passed.

Dr. W. D. Partlow, Chairman of the Committee on Mental Hygiene, read his report.

REPORT OF COMMITTEE ON MENTAL HYGIENE.

To the Alabama State Medical Association:

Your Committee on Mental Hygiene one year ago reported that the organization of The Alabama Society for Mental Hygiene had been effected, officers selected, constitution drafted and standing committees appointed for the eight various phases of work to be undertaken.

Since the period covered by that report I have the honor of reporting as follows:

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The Society for Mental Hygiene has held its first annual meeting, which was well attended, an extensive program of instructive essays and addresses on mental hygiene heard, reports and recommendations of the standing committees received and discussed, and officers elected for the present year. Some of the most important recommendations follow:

Committee on Education—Dr. J. Y. Graham, University, Chairman:

"Your Committee on Education is charged by the Constitution with the duty of informing the public as to the facts concerning the conservation of mental health and urging the adoption of such measures as are known to contribute toward that end. The committee is urged, indeed required, to make use of every possible means by which these facts may be brought before the public; by lectures and addresses in churches and schools and wherever an audience can be secured; by the distribution of printed matter on the subject; and by the publication of suitable articles in the public press. The Constitution further suggests that the committees should make a study of the educational system of the State, and bring before the society recommendations concerning modifications of that system, if after investigation, the committee is convinced that in this way it can be better adjusted to the preservation of the mental and physical health of the school children. And finally the committee shall endeavor to work out some plan which being incorporated in the scheme of public education of the State, would practically and effectively enlighten all children and youth on mental hygiene and all questions relating to individual and public sanitation and hygiene and in any way it may deem best look into the problem of "Education for prevention of mental, nervous, and other diseases."

Your committee feels that the Constitution has laid upon it a heavy task.

What are the factors that lead to the impairment of mental health? Alcoholism, the drug habit, sexual immorality, unhygienic living, bad heredity. The enumeration of these factors indicates at once the enormity of the task. If everyone could be induced to live an absolutely hygienic life, doubtless much could be accomplished in the improvement of mental as well as physical health.

The committee therefore recommends that as a first step an endeavor be made to acquaint the public with the established facts,—the facts vouched for by the specialists in these matters. That to this end as far as possible the services of specialists be secured to address the public. That as much as possible of the literature of the

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National Committee on Mental Hygiene be secured and distributed to those most likely to be interested."

Committee on Clinics and Dispensaries—Dr. E. B. Bondurant, Mobile, Chairman:

"Your Committee on Clinics and Dispensaries would recommend the establishment, at as early a date as practicable, of a free clinic for mental diseases in each of the larger cities of the State, and that an immediate beginning be made in the cities of Birmingham, Mobile, and Tuscaloosa.

This can best be accomplished in Birmingham and Mobile by enlisting the support and obtaining the coöperation of the physicians who conduct the clinics for mental and nervous diseases in the Medical Departments of the University of Alabama, in the cities named, in connection with the Hillman and Mobile City Hospitals, according these already established clinics the moral support and endorsement of this society.

In Tuscaloosa the Bryce Hospital itself offers the best possible opportunity for the establishment of a psychopathic clinic and out-patient department.

Your Committee, believing that the seeds of mental defect and insanity are often sown before or shortly after birth and believing that premonitory evidences of mental deficiency are present at an early age, recommend that all clinics and dispensaries be provided with facilities for the mental examination, testing and grading of children, and of school children in particular. The detection of mental deficiency at as early age as possible we would regard as a measure in mental hygiene of the first importance. This work, therefore, should be extended as rapidly as circumstances permit until facilities for the proper examination and mental grading of children are provided in every county in the State. The work might very properly be undertaken by the medical inspectors of the schools or by some other qualified officer or teacher, not necessarily a physician.

Your committee would furthermore recommend that this society request the National Committee to make, at the earliest possible time, a complete mental survey of the State of Alabama; and that the society invite the coöperation of the State Medical Association, the management of the insane hospitals, the Governor, the educational institutions of the State and all other persons and agencies whose interest can be enlisted."

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Committee on Survey of Defectives—Dr. Seale Harris, Birmingham, Chairman:

"The Committee on Survey or Census of Defective Children recommend that the Governor of Alabama be requested to appoint a commission for the study and prevention of mental deficiency, with the idea of requesting the National Committee for Mental Hygiene, the Rockefeller Foundation, and the U. S. Public Health Service to provide experts on mental hygiene to make a comprehensive survey of the State, with the object of locating the defectives and delinquents in Alabama; said commission to report to the next Legislature with recommendations of methods to prevent mental diseases and to care for the defectives and delinquents."

Other committees made equally interesting and important reports and recommendations, but not being of a character to be especially interesting to a medical body, neither they nor extracts from them will be incorporated in this report.

As Secretary of the Alabama Society for Mental Hygiene I cordially invite the members of our State Medical Association to lend their support and influence to this forward movement by becoming members of the Society.

W. D. PARTLOW,
Chairman Committee on Mental Hygiene.

The report of the State Committee on Medical Preparedness was called for.

Dr. Baker: In view of the prominence of the subject of medical preparedness the State Committee for Medical Preparedness, after consultation with the officers of the State Association, have decided that the best time to take up this question would be on tomorrow about noon, immediately after the Jerome Cochran lecture. At that time Dr. W. J. Mayo, who is the National Chairman of the Committee for Medical Preparedness, will be present, and we will also have an address by Col. Shriner, a regular army medical officer delegated to address us, and at that time, if it is the pleasure of this Association, will be submitted the report of the Chairman of this Committee, and we will discuss more or less in detail the subject of medical preparedness as it relates to this Association. I ask that that report be postponed until tomorrow morning immediately after the Jerome Cochran lecture.

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The President: Gentlemen, you have heard the request of the Chairman of this important committee. If I hear no objection it will be postponed as requested by the Chairman.

The report of the State Committee on First Aid was called for, but the Chairman, Dr. Inge, was not present.

The President: This report will be passed.

The report of the State Committee on Social Insurance, Dr. P. J. Howard, Chairman, was called for, but no member of the committee was present and therefore the report was passed.

Dr. H. G. Perry, Chairman, read the report of the Council on Nosology.

REPORT OF THE COUNCIL ON NOSOLOGY.

H. G. PERRY, MONTGOMERY, CHAIRMAN.

Nosology is defined as the scientific classification of diseases with a view to the discovery of statistical truths concerning their history and natural phenomena.

"Among the great ends of a uniform nomenclature must be reckoned that of fixing definitely, for all places, the things about which medical observation is exercised, and of forming a steady basis upon which medical experience may be safely built."

"Nosology was cultivated with fervor one hundred years ago, and was believed to be a necessary part of the knowledge required for the practical treatment of disease."

Many systems of nomenclature were devised by many leaders. The first statistical congress met in Brussels in the year 1853 and steps were taken which resulted in the preparation of the present International List of Causes of Death, which list is due chiefly to the efforts of Dr. Jacques Bertillon. This list does not claim to be a strictly scientific classification of diseases but a practical working list whereby compilers can assign medical terms to definite titles.

Many countries, including the United States of America have adopted the International List. In fact, it affects more than 200 millions of the people of the world, and makes available for comparison, the statistics of all countries using it.

The value of compilations of causes of death is materially affected by the accuracy of the units which go to make up such compilations. It therefore becomes necessary for individual reporters of cases of diseases and of deaths to recognize the importance of the subject and to have such an acquaintance with the International List as will enable them to make reports conform to its requirements.

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This Council, in its report to the Association in 1919 recommended the adoption of the International List of Causes of Death. Vest pocket editions of this list have been sent out by the Census Bureau to every doctor in the United States. In addition all doctors in Alabama have been furnished second copies by the State Board of Health.

Notwithstanding the opportunities for gaining information noted above, your Council deems it wise to present at this time a brief outline of some of the rules governing the reporting of diseases and deaths.

It is to be regretted that the law permits the body of a deceased person to be uninterred under any circumstances, until the cause of death has been definitely determined. Such a procedure is made illegal in many states. Autopsy should always be required in every case in which there is any doubt. The experience of the members of this Council is that consent for autopsy is very much easier to obtain than is generally supposed. A physician owes it to himself as well as to his patrons to refuse to sign a death certificate until a satisfactory cause of death has been ascertained. To write "unknown" on a death certificate is a reflection upon the diagnostic ability of the attending physician.

It is not the province of this report to discuss at length the International List. Access to the list is easily available. It will be sufficient to state that before or after a death an accurate diagnosis should be made and that the cause of death should be so clearly expressed as to leave no doubt in the mind of the compiler as to its proper classification.

Indefinite terms such as are given below should be avoided. The reasons why they are objectionable will be apparent on a moment's thought. If it becomes necessary to use any of the expressions in the following list a brief explanation should be given stating the location of the injury, or of the disease, and such prominent facts connected therewith as will enable the death to be properly classified.

UNDESIRABLE TERMS.

Abscess, accident, injury, external causes, violence, drowning, gunshot, atrophy, debility, decline, exhaustion, inanitation, weakness, cancer, carcinoma, sarcoma, congestion, convulsions, croup, dropsy, fracture, gastritis, acute indigestion, heart disease, heart trouble, heart failure, hemorrhage, hysterectomy, inflammation, infantile paralysis, laparotomy, malignant disease, marasmus, meningitis, nat-

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ural causes, paralysis, peritonitis, pneumonia, ptomaine poisoning, tabes, tuberculosis, tumor, uremia.

It should be borne in mind that while completeness of records of the occurrence of diseases and of deaths is desirable and essential it is of no more importance than the accuracy of the statement of the causes of death.

A comparison of the Annual Reports of the Bureau of Vital Statistics of this State will disclose the fact that deaths are being more completely reported each year. But it will also be seen that the number of deaths from unknown causes is much too great.

The members of this Association have it largely in their power and owe it to the Association and to themselves, to wipe out this blot on our statistical records.

Dr. Hugh Boyd, of Scottsboro, read the report of the Council on Pharmacy.

REPORT OF COUNCIL ON PHARMACY.

HUGH BOYD, SCOTTSBORO, CHAIRMAN.

After careful and thorough analysis of the Salicylate of Soda—Synthetic and Natural (from oil Wintergreen)—the Council on Pharmacy of the American Medical Association have declared them identical in action and effect; likewise Phenacetin and Acetephenetidin, and we see no reason why physicians should continue to prescribe the higher priced drugs.

We heartily endorse the position of the Council in omitting Aspirin-Bayer from the New and Non-official Remedies. The advertising campaign of this corporation is truly obnoxious—and is not done for either the benefit of the public or the profession, but purely from the standpoint of the income of this company. We see no reason, however, why physicians should ever have prescribed Aspirin-Bayer, when the pure preparation, Acetyl Salicylic Acid, could be easily obtained for half the cost of the trade-marked article.

Since the introduction of Salvarsan, medication by the veins has greatly increased. This is a great step forward and should be encouraged. We wish to urge the profession to study this method more fully, so that in future it will be used with known drugs when occasions require.

We also wish to advise against the use of some preparations now extensively advertised, of obscure composition and of questionable

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virtue, namely: Vinorsen, Vinirorsen, Venodine, Vin-quinine, Vin, etc., etc., manufactured by the Intravenous Products Co., of Denver, Col. As an example we take Vinorsen. It is put on the market in regular, double, and triple strengths, and sold at $1.50, $2.00 and $2.50 a dose respectively.

Its manufacturers claim for it "low toxicity" and "superior spirochactocidal powers in Syphilis," and describe it as "a comparatively non-toxic organic arsenic compound, 5 c.c. of the solution representing .7 gr. of organic arsenic. (4.37 gr. metallic arsenic) and 3/250 gr. metallic mercury in combination."

They claim, moreover, that "Vinorsen combines arsenic and mercury in proportions suitable for the entire treatment of Syphilis" and that "it has proved to be as nearly a specific in Syphilis as is yet known" and "makes the interval treatment unnecessary;" and they boldly assert that "Venorsen does not need the usual treatment of mercury or Iodides, unless an intolerance to arsenic is shown," and "that many cases showing positive reactions will respond negatively to the Cora, Venom, Noguchi and Wasserman tests after the administration of 6 or 8 doses given at from 4 to 6 day intervals."

We have searched the literature carefully and can find no reports from any reputable Syphilographer or physician or surgeon to substantiate such claims. They (the manufacturers) admit, however, that "mucous patches in the mouth and throat persist after a full course of Venorsen, even when the Spirochaeta was originally responsible for the lesion." This admission is sufficient in itself to show the inefficiency of the preparation, and that the claims are ridiculous, misleading and false.

After analyzing this preparation the Council on Pharmacy and Chemistry of the American Medical Association tell us that "Venorsen as now marketed is a simple solution containing 9 grains of sodium cacodylate, 1/40 gr. mercury biniodide and ¾ gr. sodium iodide to each full dose," and declare that "no real evidence has been presented or found for the claim of "lower toxicity and greater spirochactocidal powers than other known arsenic compounds," and "that no justification has been found for its use in Tuberculosis or Pellagra," and that "a careful physician would not give mercury and arsenic in fixed proportions." They brand the article as an unscientific combination, and declare its therapeutic claims are unwarranted.

It is a well-known fact that Sodium Cacodylate is greatly inferior in efficacy against Syphilis to Salvarsan and Neosalvarsan and "there

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appears no reason for administering it intravaneously."—and we know that no 6 or 8 doses at 4 or 5 day intervals, or any series of these doses will cure a case of Syphilis.

In this connection it is noted with surprise and even amazement, that the lamented Murphy advocated the intramuscular injection of Sodium Cacodylate in Syphilis rather than the use of other arsenical compounds—Salvarsan, Neosalvarsan, etc. While we have the greatest respect for his teachings, and regard most of them as superlatively good, in the light of present day information, we can do no less than consider such advice, coming from such authoritative source, as perniciously bad.

We deem it unnecessary to go through the whole list, Venodine, Venosol, Ven-quinine, etc., and show the fallacy of the claims of the producers and point out the dangers and the uselessness of giving intravenously the drugs these compounds contain.

CORPUS LUTEUM.

Some obstetricians believe that the non absorption of corpus luteum plays an important part in the nausea of pregnancy, and have given 1/3 gr. of the soluble powder in normal salt solution intramuscularly for its relief. This is equivalent to 2½ grs. of corpora lutea. This dose is given once or twice daily for 4 to 7 days, then at longer intervals.

In markedly neurotic cases it seems to have a sedative effect—the nervous manifestations of early pregnancy being markedly controlled.

Some cases of the pernicious type have been reported as having been treated successfully, but in my own hands, it was without appreciable effect in two cases.

Recent reports on this preparation indicate that it is of questionable virtue.

Time will not permit us to go into details about Vaccines; but evidence is increasing that the effects and results obtained by them in the treatment of disease are due, not so much to any specific element a certain vaccine may possess, but to the amount or quantity of foreign protein it contains.

Very favorable results were reported by Ichikawa in 1912, and later by Chickering, Gay and others of the intravenous injection of typhoid vaccine in typhoid fever. Just as favorable results have been reported by Kraus, Miller and others with the intravenous

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injection of Colon Vaccine, solutions of protein, or albumose in this injection. Good results have been obtained in Arthritis of gonorrhœal origin by the intramuscular injection of sterile milk and of Sodium nucleinate; and in acute, subacute and chronic arthritic conditions of various types, good results are reported following the intravenous injection of typhoid vaccine and proteose.

In gonococcic conditions Culver reports more marked reaction following the intravenous injection of meningococcic vaccine than that of gonococcic or staphylococcic. So the reaction seems to be nonspecific in nature and could be obtained by a like amount of any foreign protein. The curative effect seems to be in proportion to the temperature and leucocytic reaction. The data we have on foreign protein indicates that its effects are mostly curative and not immunizing. If it is shown that vaccines owe their effect to the foreign protein contained, the standardization of a sterile pure chemical preparation of some proteose will greatly simplify this form of medication.

Emetin, the principal alkaloid of Ipesac, is a white amorphous powder. The Hydrochloride is the salt generally used. It is not so effective when given by mouth, is unpleasant to take, more likely to be followed by nausea and vomiting, and in this manner is irritating to the intestinal mucosa. For these reasons, it is generally given hypodermically suspended in normal saline solution in doses of ¾ to 1 gr. It is regarded as a specific in Amœbic Dysentery and Hepatitis in the same sense that quinine is in Malaria and Salvarsan is in Syphilis. In acute cases it acts quickly and cures are usually permanent. It is regarded with such favor by the English surgeons with the British army in Egypt and Turkey, and owing to the difficulties of making an early differential diagnosis, it is given in practically every case of dysentery, regardless of its type. It is given hypodermically in daily doses of 1 gr. or 1/3 grain. three times daily for 3 or 4 days, then ½ grain every other day for ten days. In cases in which encysted Amebæ are suspected, ½ grain given once or twice a week for some time is advisable.

Protozoal infections are difficult to eradicate, especially when they have become chronic. Within 24 hours after the hypodermic administration of 1 gr. emetin hydroch. its sterilizing effect is noted, and Entomebæ reached by the circulation are usually killed. But in chronic dysentery the amebæ have invaded the deeper tissues, become disseminated and encysted, and the emetin can't reach them—the encysted ones—and cures in these cases, are rarely perma-

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nent, but merely clinical; and days, months or years later the encysted amebæ reappear in active vegitative form, accompanied by symptoms of an acute attack. For these reasons the treatment should be conducted along lines similar to that of Malaria and Syphilis—that is—continuance of emetin for some time after all evidence of the infection has disappeared. Given in this way, the likelihood of permanent cure is encouraging. Reports show that it acts quicker and gives a larger percentage of symptomatic cures than Ipecac. 1/3 gr. of the Hydroch. given hypodermically equals about 30 grs. Ipecac. Its amebicidal effect is much lessened in opium habitues.

Because of its immediate amebicidal action, it lessens greatly the danger of complications, and cases are reported that tend to show its curative effect on liver abscess after formation.

Tropical physicians agree that it will cure Amebic Hepatitis, and will abort or check beginning abscess formation, and after aspiration or drainage it has a splendid effect on the amebæ in the abscess wall. One grain is given immediately after aspiration and repeated for 3 days.

Vedder showed that emetin hydrochloride in normal salt solution in dilutions of 1 to 10,000 immediately kills Entomebæ Histolytica present in mucous and in dilutions of 1 to 100,000 renders them inactive.

Some surgeons inject weak solutions into the abscess cavity after drainage. We think this unnecessary. Owing to its irritating properties, it is not suited for colonic irrigations.

Bærmon and Heineman report better results in acute Dysentery by giving intravenously 3 grs. of emetin hydrochloride to every 100 pounds by body weight in 100 cc. normal salt solution. Too large doses or the prolonged use of small doses will cause diarrhea, or keep it up.

When the Entomeba Histolytica is found in the stool of patients with Sprue, emetin will not only benefit, but may even cure.

In Pyorrhœa Alvœaris, the injection of ½ grain daily will cause disappearance of the Entomebæ Buccalis from wound in 1 to 3 days in over 90% of cases, and in 6 days, in over 99%.

It acts on the smooth fibres in the vessels as a vaso-constrictor, and is valuable in all hemorrhagic troubles, Hemoptysis, Hematemesis, Hemophilia, Purpura, etc. On account of its vaso-constrictor action it is said to influence acute pulmonary congestion. It is reported to be our best remedy in any type of hemorrhage, especially

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pulmonary, from Phthis and from wounds—French surgeons using it with success to control persistent hemorrhage from lungs in chest wounds. It is also used to control hemorrhage in bleeders, and cases are reported in which it cured cases of purpura hemorrhagica.

The claims that it aborts typhoid fever in 5 or 6 days are not to be accepted, but that it seems to prevent intestinal hemorrhage is quite true.

The report of the Council on Scientific Study, Dr. J. S. McLester, Chairman, was called for, but Dr. McLester was not present and the report was passed.

The Association adjourned at 12:50 p. m. until 3 p. m.

FIRST DAY, TUESDAY, APRIL 17.

AFTERNOON SESSION.

The meeting was called to order by the President at 3:05 p. m.

The Secretary: As Secretary I have received a file of papers constituting an appeal from the findings of the Etowah County Medical Society in a case against Dr. Appleton.

The appeal was referred to the Board of Censors.

The Secretary: I have a resolution:

***Be It Resolved,* That we, the members of the State Association of Alabama, at our regular annual meeting held in the city of Montgomery, April 17, 1917, heartily approve and unreservedly endorse the action taken by President Woodrow Wilson in the present crisis, and earnestly pledge our mental, moral and physical support to him and to our country's service in the attainment of his ideals and the perpetuation of our country's liberty and patriotism.**

The resolution was referred to the Board of Censors.

The President: I have the following invitation, signed by Mr. E. J. Devinney: "As a member of the committee appointed by Mayor W. T. Robertson to arrange for the patriotic demonstration to be held Wednesday, I have the honor of extending the Medical Association a cordial invitation to attend."

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On motion of Dr. Perry the invitation was accepted.

Dr. C. W. Hilliard, Dothan, who was to have read a paper on "Glaucoma," was not present.

*Dr. P. I. Hopkins, Dothan, read a paper on "Iritis." Discussed by Drs. S. L. Ledbetter, Birmingham; William C. Maples, Scottsboro, Dr. Ledbetter closing for Dr. Hopkins.

Dr. Chenault: I move you that the privileges of the floor be extended to all the visitors present.

The motion was seconded and carried.

Dr. Charles Drake, Birmingham, who was on the program to read a paper on the "Recognition and Treatment of Frontal Sinus Headache," was not present.

Dr. P. S. Mertins, Montgomery, read a paper on "Local Infections of the Ear, Nose and Throat in Relation to General Disease." Discussed by Drs. S. L. Ledbetter, Birmingham; H. S. Ward, Birmingham; Dr. Mertins closing.

The authors of the following three papers were not present:

"Present Day Opinions as to the Value of Salvarsan,"—Dr. Wilbur A. Sellers, Montgomery.

"Cystoscopy"—Dr. John O. Rush, Mobile.

"Prostatectomy"—Dr. John T. Geraghty, Baltimore, Md.

Dr. C. W. Shropshire, Birmingham, read a paper on "Suprapubic Prostatectomy with Mechanical Drainage." Discussed by Drs. John M. Wilson, Mobile; A. N. Steele, Anniston; W. F. Scott, Birmingham; Dr. Shropshire closing.

Dr. J. P. Stewart, Attalla, read a paper entitled, "Crippled Kidneys." Discussed by Drs. T. A. Casey, Birmingham; H. S. Ward, Birmingham; C. W. Shropshire, Birmingham; William C. Maples, Scottsboro; Paul P. Salter, Montgomery; Dr. Stewart closing.

The President: If it meets with the approval of the Association, we will change the time of meeting Wednesday evening to 9:30 on account of the patriotic demonstration we are to attend that evening.

Adjourned at 5:40 p. m.

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*For all papers and discussions see Part II.

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FIRST DAY, TUESDAY, APRIL 17.

Evening Session.

Called to order at 8 p. m. by Dr. E. B. Ward, Selma, Senior Vice-President.

Dr. F. L. Chenault, Albany, read a paper on "Fractures Near the Elbow."

Dr. Marcus Skinner, Selma, read a paper on "Surgery of the Bones and Joints."

The two preceding papers were discussed by Dr. W. W. Harper, Selma.

The authors of the following five papers were not present:

"Surgery of Kidney"—Dr. A. S. Frasier, Dothan.

"Renal and Perirenal Abscesses"—Dr. Paul Rigney, Courtland.

"The Decompression Operation in Fracture of the Base of the Skull—Dr. S. R. Benedict, Birmingham.

"Blood Transfusion"—Dr. P. B. Moss, Selma.

"Military Surgery"—Dr. W. Earl Drennen, Birmingham.

Dr. J. U. Reaves, Mobile, read a paper on "Chronic Gonorrhœa in the Male." No discussion.

Dr. A. A. Jackson, Florence, read a paper on "Infections of the Knee Joint, with Especial Reference to Treatment." Discussed by Dr. Mack Rogers, Birmingham.

Dr. Paul P. Salter, Montgomery, read a paper on "Blood Pressure." No discussion.

Dr. Mack Rogers, Birmingham, read a paper on "The Carrel Method of Using Dakin's Solution in Both Primary and Subsequent Treatment of Open Wounds." Discussed by Dr. A. L. Nourse, Sawyerville; Dr. Rogers closing.

Adjourned at 10:30 p. m.

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SECOND DAY, WEDNESDAY, APRIL 18.

MORNING SESSION.

Called to order at 9:15 by the President.

The President read telegrams from Drs. Wickliffe Rose, New York; Paul Rigney, A. S. Frasier and John O. Rush, expressing regret that they could not attend the meeting. He also announced that he had received a letter from Dr. Floyd McRae saying that he could not be present.

Dr. W. W. Harper, Selma: I wish to offer the following resolutions:

Whereas, Criminologists have shown that the present treatment of the criminal is unscientific, inhuman and unchristian;

Be It Resolved, First, That there be appointed a committee of five experts from the membership of the Alabama Medical Association to act with a like committee from the Alabama Bar Association for the purpose of rewriting the Criminal Code of Alabama, to the end that justice may be meted out to the criminal class.

Second. That this Association request the Bar Association to appoint a similar committee.

Whereas, Statistics show that in the school the subnormal child is holding back the normal child, thus delaying several years the completion of the normal child's education; that the scheme of studies for the normal child is unsuited for the subnormal, thus defeating the proper education of the subnormal child:

Be It Resolved, First, That there be appointed from the Medical Association of Alabama a committee of five to act with a similar committee from the State Educational Association to revise our system of education;

Second. That a copy of these resolutions be sent to the Educational Association and that they be requested to appoint a committee.

The resolutions were referred to the Board of Censors.

Dr. Clarence Hutchinson, Pensacola, Fla., read a paper on "Lacerated Perineum and Its Repair." Discussed by Drs. L. C. Morris, Birmingham; J. S. Turbeville, Century, Fla.; W. R. Jackson, Mobile; Dr. Hutchinson closing.

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Dr. W. R. Jackson, Mobile, read a paper on "Why Gastro-enterostomy Fails to Relieve." Discussed by Drs. Seale Harris, Birmingham; L. C. Morris, Birmingham; Clarence Hutchison, Pensacola, Fla.

Dr. Seale Harris, Birmingham, read a paper on "The Early Diagnosis of Ulcers of the Stomach and Duodenum."

As it was nearly time for the Jerome Cochran lecture, a recess of twenty minutes was taken at this point.

(After reconvening)—

The President: The hour has arrived for the special order of the Jerome Cochran Lecture. We are especially honored today in having with us the best known surgeon in the world to deliver this oration. I dare say that in the whole civilized world there is not a doctor who is not intimately informed regarding the name and work of the man who is to address us now—Dr. William J. Mayo.

Dr. Mayo: I assure you that I esteem it a very great honor and privilege to appear before this society and to deliver the address which you have dedicated to one of the strong men of the past. This man is ever to be remembered in connection with his work in yellow fever, and also as one who had, perhaps, more to do with the organization of this society than any other man in the State of Alabama. I think it is particularly fitting at this time, when our country is facing one of its very great problems, that we should not only remember these able men of the past, but that we should look for such in the present, in every community and in every state—men of the character and ability of Jerome Cochran—who are so greatly needed in the most serious and difficult experience this country has known since the time of the Revolution.

Dr. Mayo then delivered the Jerome Cochran Lecture.

For lecture see Part II.

At the conclusion of the address Dr. W. R. Jackson, Mobile, moved a rising vote of thanks and appreciation, which was unanimously carried.

Dr. E. B. Ward, Selma: I wish to offer the following resolution:

***Resolved*, That it is the sense of the Medical Association that the Medical Association meeting may continue only three days instead of four.**

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There has been a good deal of talk and discussion about the detention of the members here so many days, and this resolution is offered so we can arrange that the meetings will continue from Tuesday until Thursday.

The resolution was referred to the Board of Censors.

The President: The next order of business is the postponed:

REPORT OF THE COMMITTEE ON MEDICAL PREPAREDNESS.

DR. J. N. BAKER, MONTGOMERY.

Mr. Chairman and Members of the Medical Association of the State of Alabama:

It is with no little embarrassment that I appear before you fast on the heels of the distinguished speaker, but I feel that the magnitude and importance of the subject which we wish to discuss now will in a measure justify my appearance at this particular time.

Dr. Mayo very beautifully expressed the position in which the medical profession stands today in regard to the national crisis which faces our country. And in the gigantic handling and mobilizing of the physical forces of this country there is presented to us as physicians all over the country an opportunity for humane and patriotic service which has not been presented to any members of this profession during this generation. Therefore, it seems that each and every one of us should consider this matter and go to work to do what we can for the good of the National Government.

Now, I wish very briefly to outline for you what the various State committees and in particular what the State Committee for Alabama has been endeavoring to do in the way of listing and mobilizing the medical resources of this State.

To begin at the beginning, in April of last year there was created by the President of the American Medical Association, the President of the American Surgical Association, the President of the American Colleges of Physicians and Surgeons and the President of the National College of Surgeons a committee known as the American Committee on Medical Preparedness, which committee appointed for service in each State sub-committees, known as the State Committee for Medical Preparedness. That committee is composed of nine members in each State Association, the President and the Secretary of each State association being members of that committee during

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their incumbency of office. The other seven men were chosen by this committee appointed by the presidents of these associations that I have just mentioned. These committees were appointed in the various States, and the service of this National Committee, which is known as the American Committee for Medical Preparedness, and the services of these various State committees were tendered to the President of the United States. The President at that time was not in a position to accept the gratuitous services of bodies of this sort, but in August of last year, by an act of Congress, there was passed a bill creating what is known as the National Council of Defense. That Council of Defense is made up, as you all know, of six members of the President's Cabinet; the Chairman of the Committee is the Secretary of War.

Associated with this Council of Defense is what is known as an Advisory Commission, composed of not less than seven men, each of whom is an expert in some civil walk of life, to aid and assist in arranging and mobilizing the physical forces of this country. Now on that Advisory Commission, as the medical executive, was placed Dr. Franklin H. Martin, of Chicago, and as his chief of staff is Dr. F. F. Simpson, of Pittsburgh. The medical end of the Advsiory Commission of the National Council further has an Advisory Board, made up of the Surgeon-General of the Army, the Surgeon-General of the Navy, the Surgeon-General of the Red Cross, and Dr. William J. Mayo, Chairman of the Medical Committee for Medical Preparedness, and Dr. Welch, of Baltimore, and several others.

You see it takes a rather complicated organization to cover the work that has been outlined.

Now to come down to the work of the State committees. These various State committees, each composed of nine men, were first requested to catalogue and coördinate the physicians throughout each State. The State Committee of Alabama, as it stands today, is composed of the following men: Drs. R. S. Hill and John H. Blue, Montgomery; H. P. Cole, Mobile; F. G. DuBose, Selma; W. Earle Drennen and L. C. Morris, Birmingham; the President and Secretary of this Association, and myself acting as Chairman.

The first work that this State Committee was requested to do was to catalogue and make an inventory of the doctors of our State. There are about two thousand physicians. We were requested to base that report by selecting about two hundred medical men to every million of population in each State, making the number from Alabama between three and four hundred. The State Committee

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met, carefully went over the list of doctors in this State, and catalogued them, noted the specialty of each man as we knew them, and sent that in for the use of the Government.

The next request that was made of this State Committee was to catalogue and give an inventory of the various hospitals, asylums and State sanitaria throughout the State. You readily understand that in case of a national crisis to have first hand information of all resources in each hospital throughout the State would be of very great importance. This was done, and I am very glad to be able to say that the various hospitals have sent in this information, and our records are complete in the Surgeon-General's office in Washington now, so far as the State of Alabama is concerned for the hospitals.

The next duty that this State Committee was asked to perform was to go still a little farther and to organize in each county in the State sub-committees in which the work could be still further and still more accurately prosecuted, so far as cataloguing and placing of the proper appraisement of the various men in the counties. These county committees have been appointed in each county in the State, and I am very glad to be able to report to this Association that nearly all of the county committees have had meetings, the subject of medical preparedness has been discussed, and in a great many instances the lists of the men who are willing to go to the front have been sent in. With one or two exceptions, the response has been beautiful and most patriotic.

That, in brief outline, gentlemen, is what the State Committee has tried to do for our National Government. Now I have had frequent requests from all over the State, wishing that more definite information be given them. The War Department has not seen fit to reveal any of the plans which they have on foot, consequently the information which has sifted through to the various States has been very meager, but, as I gather from my correspondence with the War Department in Washington, there is one thing that they wish to accomplish as rapidly and as quickly as possible, and that is to try and get all of the medical men throughout the State actively interested in the medical officers' reserve corps, which, as you already probably know by this time, is a special reserve corps upon the roll of which will be placed a member after he passes certain physical and mental examination, which will not be very rigid. But if these names are catalogued in the various counties and the men volunteer their service, then the Government will be in position to know exactly where to draft the men for the reserve corps.

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In your work throughout the various counties you are encouraged to work with any organizations of the Red Cross that have been organized, or if no such chapters have been organized in your various communities, to encourage it as much as possible, and to aid in the Red Cross activities, for, as you know, the opportunities for service for the ladies and those who cannot actually go to the front are practically limitless through the agencies of the Red Cross. We have found here in the city of Montgomery that the whole population, men, women and children, have been very eager and anxious to join the Red Cross, and to place themselves in a position to do at least a little mite towards the great cause which we probably will be called upon to serve.

And, in conclusion, I wish to offer the following resolution:

Whereas, War has been formally declared by the United States of America upon the Imperial German Government;

And Whereas, Our President has exhausted every honorable means before taking this final step:

Therefore, Be It Resolved, That the Medical Association of the State of Alabama, in regular session assembled, heartily endorses the course and actions of the President, and pledges to the National Government its loyal and unstinted support in its prosecution of its every plan. (Applause.)

The President: Dr. Baker, I might state that a resolution almost exactly similar was offered yesterday.

Dr. Baker: I will be very glad to accept that as a substitute. In conclusion, I am going to ask Dr. Mayo, as Chairman of the American Committee for Medical Preparedness to say a few words to you.

Dr. Mayo: Ladies and Gentlemen: I assume that we are all good and loyal citizens of the United States, and I believe also that we are in sympathy with the President in what he is trying to do. We may disagree with him in some of his methods, but in the main we all have the same object in view, and that is, the end of the war, which must be brought about, not by a combination of warships to police the world, but by a condition of democracy which will make one and all free citizens.

As our President has so justly said, this is a war against the Imperial Government of Germany, not against the German people, and it has taken two and a half years to convince the

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four and a half million German citizens of this country—highly respected and loved by us all—of this fact, and it has taken the same length of time to convince the pacifists—whose opinions we respect—that the end of war will bring with it the development of the higher, more spiritual qualities in all people.

This war has already brought one great benefit which the German people appreciate even more than we do, that is, the democracy of Russia. It seems to me that the underlying feeling of the German people has been a fear of that ruthless monarchy to the east. But with Russia's democracy, and the great democracy of the United States as an example, we foresee that Germany will end imperial government and bring about democracy. We can also foresee the freedom of the ballot in Germany, as it is here, and the permission for the women to vote will forever prevent the declaration of an aggressive warfare by any democracy.

I think it has been apparent from the beginning to every thinking man in this country that this is a war for the freedom of people, and it is to free our own souls that we have gone into it. One year before a declaration of war by the United States the presidents of the various medical societies appointed the committee of which I have the honor to be chairman. We have received every encouragement from the President to further our work. This committee of twenty-eight raised among themselves in the vicinity of six thousand dollars and initiated the movement that Dr. Baker has just been speaking of. Twenty-two thousand physicians in the United States have been catalogued and are now ready for work. Nearly 100,000 hospital beds have been pledged to this movement. Our navy comes first and the army next, and third in rank is the American medical profession, of which we have just cause to be proud. The American medical profession has come forward in this crisis and without formal encouragement has done a great work. Today we are ready, from the standpoint of the medical profession, to prosecute a successful war. Another important matter must be kept in mind—to keep our medical schools full. Young men must be encouraged to go into the medical schools. Within ten years, because of the lengthening of the courses of medical schools, because of the increased expense and the length of time required to become doctors, we are facing a shortgage of medical men in civil life, and the

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cases of sickness in civil life could scarcely be cared for if it were not for the trained nurse and the better education of the public.

It seems to me that the great underlying principle that we must support is first, the education of the people so they will need the care of doctors less; second, the prevention of sickness; and third, the trained nurse to step in behind us and take many of the duties from our shoulders, until such a time as we shall have a sufficient number of doctors.

The President: The Association will be addressed on the same subject, "Medical Preparedness," by Col. Shriner, a member of the Medical Department of the United States Army.

Col. Shriner: Mr. President, Members and Guests of the Alabama State Medical Association: Some weeks ago it was my fortune to be ordered to this city with a view to mustering out the returning members of the Alabama National Guard. Since that time a state of war has been declared to exist against the German Government, and the duty of mustering out has been suspended.

Our thoughts have been urgently directed to the necessary preparation for the crisis which confronts us. The Surgeon-General, at the instigation of the Chairman of your State Committee on Medical Preparedness, has designated me to represent the Medical Department at this meeting. This duty I feel I can best perform by bringing before you the questions: How is the medical profession of this country prepared to assist the Government in the present war for the manning of the large army which we have every reason to expect will be created? What may we further do at this eleventh hour to further this preparedness? How may each individual contribute to the performance of these duties?

By the National Defense Act of June 3d, last year, Congress authorized the increase of the regular army to a total strength of about 290,000. One-fifth of this increase became effective on the first of last July. The remaining four-fifths will probably be made effective within a very few days. We expect to hear at any time that Congress has authorized this further increase. This increase carried with it a provision for a medical department based on a strength of seven medical officers to each one thousand of enlisted strength, giving a final total when the full increment have been called, of about 1,800 medi-

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cal officers. Of this number, not more than one-third are now in the service, so that even in the regular medical corps there will be two-thirds or about twelve hundred vacancies for medical officers.

These positions are open to young men not over thirty-two years of age at present. They are usually held for life, and it is required of applicants that they pass a satisfactory physical and mental examination before being commissioned. Heretofore a course of not less than five months' instruction has been given before the final commission in the medical corps has been issued. Under existing circumstances it is not to be expected that this will be practicable.

For those who enter the service at the beginning of this large increase the prospects of final promotion are very good. Under existing law medical officers enter the regular army with the rank of first lieutenant. By law at the end of five years they are promoted to the grade of captain. The grades of major, lieutenant colonel and colonel are attained by vacancies occurring in those grades. The Surgeon-General is an appointive office at the discretion of the President.

The regular medical corps has never been sufficient for the care of our army in times of peace, and its work has been supplemented by the services of officers of the medical reserve corps on the active list. We have had from one hundred to three hundred of these medical reserve corps officers called from civil life constantly on duty during peace times. At present these commissions are only in the grade of first lieutenant, but the National Defense Act provides for the substitution after June 3 of this year of the medical section of the officers of the reserve corps, with grades including captain and major. Unfortunately the opportunities for training our medical reserve corps officers have not been carried out very extensively. Correspondence courses have been provided at the field school for medical officers at Fort Leavenworth, Kansas, but they have only been instituted recently. The proposed course was one of four years, and it is now only in the beginning of its second year.

During the summers of 1913, 1914 and 1915 practical training was given in camps for medical officers of the reserve corps. This instruction was in the hands of the medical officers of the regular army, but only a limited number availed

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themselves of these opportunities. Provision had been made for five of these camps during 1916, scattered throughout the country from the eastern to the western coast, but these camps were cancelled owing to the shortage of regular medical officers occasioned by the Mexican difficulty. Several hundred members of the medical reserve corps have already seen active service on the border and in Mexico.

The medical officers of the National Guard have already had considerable experience with troops and sanitary units, and many have maintained during this period of activity and mobilization on the border a commendable degree of efficiency in the military aspect of their work.

Now an army of a million men will require at the very least the provision which has been authorized by Congress of seven per thousand, or seven thousand medical officers. This is the minimum number for duty with the troops. So it is apparent that the number of medical men having previous military experience or training will constitute but a fraction of the whole number engaged. Fortunately, however, military conditions at present offer some time and opportunity for preparation. Experience and instruction will be afforded at the large mobilization and training camps in the immediate future.

Many of the reserve officers will be, by reason of their age, physical condition and experience, best fitted for the service of the interior, or with immobile sanitary formations—of course, I mean those that do not move with the troops, base hospitals, etc. The service of the zone of operations will in general be best performed by the younger members of the profession, and those who by their mode of life are fitted to adapt themselves to the activities and hardships of life in the field under war conditions.

I would urge those who feel that the nation requires their services and that they can be of use to so place themselves on record at the earliest opportunity, and to be prepared to obey the call of the President the moment it is sent. The period from now until the engaging in actual hostilities may well be spent in intensive preparation, which time at most will be all too short.

Find out what opportunities for service are offered, decide upon that for which you are by nature and experience best fitted, and then bend your energies to acquiring all the informa-

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tion you need. Do all you can to secure the service you decide upon, for which you decide you are best fitted. Remember that undue modesty is not a military virtue, and if you fail to get the position you desire, be prepared to render service in any capacity to which you may be called.

Those expecting to enter the medical service should lose no time in acquainting themselves with the organization of the army, its rules and regulations, and the no less important, though unwritten, customs of the service.

Methods of administration, especially of the various sanitary units, are of great importance. Most of this information is available in publications made by the Government, and are obtainable through the Bureau of Public Printing. Those requiring special attention are the Army Regulations, the Manual for the Medical Department, with Service Regulations, and the Hand-Book of Drill Regulations for the Hospital Corps. I would also recommend as instructive courses of reading Strawk's Medical Service in Campaign, Munson's Sanitary Text-Book, Munson and Morrison on Troop Leading Sanitary Service, and the recent text-books and current literature on military hygiene and surgery, especially comments and facts appearing in The Military Surgeon during the past two years.

Some effort has been made by the civilian medical societies throughout the country to obtain military information and instruction as exemplified by the very commendable plan of military instruction published by the Clinical Club of Albany, N. Y. An extensive organization which you have heard outlined here by Dr. Baker and Dr. Mayo has been developed by the civilian physicians of our country, under the auspices of the National Council for Defense. Since I have been in Montgomery it has been my pleasure, with the assistance of other medical officers on duty here, to present an outline of medical military service to the members of the Montgomery County Medical Society, and the interest and enthusiasm manifested by these gentlemen augurs well for their response when their services are called for, as will surely be the case for some of them in the near future.

One of the primary lessons that we must learn as military surgeons is that the medical department constitutes a part, and a not unimportant one, in the military machine whose efforts are directed to military success which entails the destruc-

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tion of the enemy. While the humanitarian phase of our work is universally recognized, its military importance is too often not fully understood. The keeping of the maximum number of effective troops on the firing line, the prompt removal of the non-effective and sick and wounded, the early and effective institution of sanitary measures for the preservation of the health of the troops, which is practically covered by the provision of suitable and efficient food, good water, and the control of infectious diseases, are duties of paramount importance.

Some knowledge of military and sanitary tactics is necessary especially for medical officers in the higher grades. Since 1912 courses of practical instruction in these subjects have been given to medical officers in the regular army and the National Guard, about equal numbers of each in all classes at the field school for medical officers at Fort Leavenworth. Last year this work had to be suspended owing to the demand for medical officers in Mexico and on the border. The work of this school is under the direction of qualified military instructors of all arms of the service. It includes practical work in the solution of military problems, both on war maps and on the actual terrain, using both the sanitary and line troops actually as far as possible. Plans for operations on the actual ground, plans based on reports of military observers in different parts of the world, are used in making out the practical problems which are solved at this school. It includes a course of practical map making. The medical officers have shown no small degree of skill and aptitude in the acquisition of this ability. But the number of medical officers so trained, unfortunately, is very small. During the recent mobilization an attempt was made to extend the scope of this instruction by the institution of conferences and practical exercises throughout Texas and in Mexico. I believe that the time is coming when universal liability for military service will be prepared for by universal training, and that it will be required of the medical profession to take part in this training. This training should begin in the medical school. Already a number of medical officers have been designated to inaugurate courses of military instruction in the principal medical schools of our country. These courses should be supplemented by practical experience in the field during the summer when the schools are not in session, and perhaps during vacations later in professional life.

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In material resources the army is well prepared for the organized forces, both regular and National Guard. It is probable that equipment and supplies for the sanitary service of the forces to be organized can be supplied as fast as the organizations are made ready. Our experience in Mexico resulted in the organization of a number of sanitary units, and equipment still remains on hand for use in a larger organization. The effectiveness of modernization for ambulance companies was well demonstrated in Mexico. The trip from Dublan to Columbus, N. M., 110 miles, which would take five days for mule train ambulances, was sometimes made in ten hours by motor ambulances over rather difficult roads. This work was entirely in charge of medical officers, and it is due to them to state that no ambulance ever failed, and that the motor ambulances remained during the campaign without the loss of a single vehicle, and no case was lost, notwithstanding serious cases were included. Congress has provided four hundred thousand dollars for motor ambulances alone, and a number remain on hand ready for use. The cost of equipping a motor ambulance company may be estimated at about twenty-five thousand dollars, and the cost of equipping a motorized mobile hospital at a slightly greater amount.

I take it that our profession will not be second to any in rendering service to the nation in its impending need, no matter what the sacrifice in time or means or life itself. In England and in France the profession has been asked to render military service and still carry on its ministrations to the civilian population. Medical societies in England have provided for the care of the members called to the front, to hold intact the means of livelihood of their professional brethren until their return. A similar provision is proposed for our own country.

Our nation has been gradually and inevitably drawn into this conflict. From accepting the gage of battle there would seem to be no choice, but one alternative, to bend the neck to the aggression of a foreign autocratic power. To maintain the principles of democracy on which our government and liberties rest, morally we are called on, and no matter what its cost in treasure and in life, let our profession stand united to render its full meed of service and sacrifice to the full end, no matter what that end may be.

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Dr. W. W. Harper, Selma, showed a case of food poison.
The Association adjourned at 1:30 to reconvene at 3 p. m.

SECOND DAY, WEDNESDAY, APRIL 18.

AFTERNOON SESSION.

Called to order by the President at 3 o'clock.

The Secretary stated that the Chamber of Commerce, the Automobile Club of Montgomery and the Rotary Club had invited the members of the Association to take an automobile ride shortly after four o'clock on Thursday afternoon.

Dr. Chenault moved that the invitation be accepted. Carried.

The President: Gentlemen of the Association, it is my pleasure to introduce to you Mrs. Thomas M. Owen, who has a message for the people that she wants you to carry to them.

Mrs. Owen: Gentlemen: I have come to talk to you about something I know you are interested in, and that is a chair where we can train rural nurses. I believe that every physician in the State of Alabama who has any country practice at all realizes the need for county nurses, women who can go into the rural communities and do this work, and that is what I have gotten the privilege of the floor for a few minutes to talk to you about.

About three years ago Miss Clemon, of the Red Cross Association, Chairman of the Town and Country Nursing Division of the Red Cross Association, was passing through, and I met her at the station in Montgomery. We talked over the necessity for such training, and she said they had an especial need for it in their work, and that there were no women prepared to do that kind of work. I, as Chairman of the Country Life Committee of the National Civic Life Federation of the Nation, felt that if we could establish a chair in one of our Southern schools where women could be trained for this work that it would be the most useful thing we could do. I at once got busy with friends whom I thought would be interested in the subject, and after I canvassed a good many institutions we concluded we would undertake to establish this chair in Pea-

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body College at Nashville, Tenn. There were a good many reasons that induced us to make that selection. One was its convenient approach to so many sections of the Southern States. Another was, and this was a determining factor, that the institution is so close to the Medical Department of Vanderbilt University, the city of Nashville is so well equipped with hospitals, and especially on account of the country life equipment at Peabody College. The million dollar country life school and the numerous departments in the school itself, rural sociology and domestic science and other things absolutely necessary in the course of training they would have to take, were already established there and there would be no necessity for extra expense for the training. After finding that it would take the income from a hundred thousand dollars to sustain the chair, in paying the teacher and the assistants, we talked about this thing to some of our friends in the North, and they said if the Southern States would raise five thousand dollars of this hundred thousand that they would undertake to raise the remaining ninety-five thousand.

Now, we have not had as much success in raising this money as we had hoped when we started out. We put the plan and the program up to the Southern Medical Association, because we wanted their endorsement. We felt that if the authorities of several Southern States knew that the Southern Medical Association had endorsed it, it would interest and give confidence to some. But we have not been fortunate enough to get the states themselves to take it up.

So as Chairman of this movement, I have taken the liberty of asking for a few moments to talk to you about it. You know that the health problems of the South are peculiar to our section. We have more hookworm and malaria, and less productive power per man than any other part of the United States; that of course is due to the lack of a well-balanced diet, owing to the fact that we raise cotton crops instead of food crops.

Our people do not get the right nutrition, enough variety in their diet, and their productive power is low. And so we need to build up our health conditions. I see that among your number you have a member of the army here this afternoon, and he will substantiate the statement that perhaps fifty per cent. of the young men who volunteered to serve their nation were

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turned down because they were physically unfit. It is said that eighty per cent. of the manhood of this section is physically unfit for military duty. And so the man power is not up to its full strength. We have so many diseases that can be prevented if we get the right kind of education to our people, especially the people in the rural districts.

Now we need many women to go into the rural districts and give this information to the rural women. We need these women to aid and assist the county health officer. She will work with the county education department, too. She will visit the schools and inspect the children in the schools and instruct the parents of those needing special treatment. She will visit the homes and show the woman in the house how to take care of the patient, to prepare a proper diet, disinfect the house after the trouble is over, and all of those fundamental health problems.

Now there are not many women who have been trained to do this work. There are only a very few places in the United States where they can get this training. Dr. Payne, the President of Peabody College, at Nashville, told me last week that if he had had a trained nurse on the campus at the time Dr. Tate was first taken with pneumonia that man's life could have been spared. I do not know whether you kept up with the work of Dr. Tate or not, but he was the greatest man in the South on rural problems, and he lost his life because he allowed himself to be dragged out with a bad cold. But Dr. Payne holds that if a trained nurse had been there at the campus that life would have been spared.

We know that if we can get this training for these women that they will go out into the rural sections and do this magnificent work.

So my object in coming to you is to ask you to support this movement financially and morally and to talk it in your communities; to say it is a good thing and ought to be done. I do not know what is the condition of your treasury. If any of you want to make a donation—Alabama's part is five hundred dollars—or if you have money in your treasury and you would be willing to put a little bit out for this chair, I believe you could not spend it for a better purpose. I simply wanted to plead with you to do this for the sake of humanity and for the sake of your own profession, because I believe these women

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will render a magnificent service. I know we need them, and I have had a number of calls for them; counties are willing to pay for them, but cannot find the women. Even Mississippi, Louisiana and states in the Middle West have written to me to know if we had any women they could employ. There is a demand for this service, the counties will pay for it, just as they pay for other service. And I do not believe you could get any better public servants than these women who could help you to take care of your health problems. When people get this education they will be better and more useful to themselves and to the nation. And so I plead with you to stand by this movement for the endowment of a chair for the training of rural nurses at Peabody College.

The President: Mrs. Owen would like to have an expression of this Association as to how you feel about this movement that she is fostering.

Dr. Perry: I move you, sir, that we endorse the work that Mrs. Owen is doing, the effort that she is endeavoring to make to raise this fund, and promise her that we will do what we can to assist her in the great work that she has.

The motion was seconded and carried.

The President read a telegram from Dr. Drennen addressed to Dr. Fred Wilkerson, of Montgomery: "Please have following read at meeting tonight. I did not know until this afternoon I was on the program to read a paper tonight." The President stated that Dr. Drennen first declined the invitation to read a paper, but later, after the preliminary program appeared, he wrote that he would reconsider the matter, and he was then put on the program. The President said he had not notified any of the men that they were on the program, and no exception was made in the case of Dr. Drennen.

Dr. Giles W. Jones, America, read a paper on "The Value to the General Practitioner of Properly Kept Records of Births and Deaths." Discussed by Drs. H. G. Perry, Montgomery; A. L. Nourse, Sawyerville; T. A. Casey, Birmingham; W. H. Moon, Goodwater; B. L. Wyman, Birmingham; C. A. Mohr, Mobile; W. P. McAdory, Birmingham; A. A. Jackson, Florence; E. B. Durrett, Gordo; Dr. Jones closing.

Dr. McAdory introduced the following resolution, which was referred to the Board of Censors:

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***Be It Resolved*, by this Association, That a form of certificate be adopted to be furnished the family by the health officer of the county upon the report of the birth of a child.**

The Secretary said he had reecived a communication from the Council of National Defense at Washington, asking him to impress upon the society the importance of coöperation with the Government in securing medical officers for the army and navy, and enclosing a plan for taking care of the practice of the men who are called to the colors. The Secretary asked that he be permitted to refer it to the Board of Censors without reading. This request was granted.

Dr. William C. Maples, Junior Vice-President, took the chair.

Dr. B. L. Arms, Montgomery, read a paper on "The Relation of the State Laboratory to the Health Officer, the Physician and the Public." No discussion.

Dr. S. W. Welch, State Health Officer, delivered an address on "The Work of the State Board of Health."

Dr. F. E. Harrington, Health Officer of Jefferson County, made a talk on "Rural Sanitation." Discussed by Drs. H. G. Perry, Montgomery; W. W. Harper, Selma; E. V. Caldwell, Huntsville; J. P. Chapman, Talladega; J. P. Stewart, Attalla; T. A. Casey, Birmingham; Paul P. Salter, Montgomery; W. H. Oates, Mobile.

Adjourned at 5:55 p. m.

SECOND DAY, WEDNESDAY, APRIL 18.

Evening Session.

This session was held at the Grand Theater, and was called to order by the President at 9:30 p. m.

The President: Ladies and gentlemen, while we feel disappointed at the smallness of the crowd here, still we feel that the magnificent patriotic celebration that we have just witnessed makes up for any disappointment that we may suffer here. Without further ado I will introduce the first speaker of the evening, my fellow townsman, Dr. M. S. Davie, of Dothan.

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Dr. Davie delivered an address on "The Humanitarian Aspect of Scientific Medicine."

(For Address see Part II.)

The President: Ladies and gentlemen, it is my very great pleasure to introduce Major Bevans, of the Medical Department of the United States Army, who will speak to us on "Medical Preparedness."

(For Address see Part II.)

Adjournment.

THIRD DAY, THURSDAY, APRIL 19.

Morning Session.

Called to order by the President at 9:10.

Dr. M. B. Cameron, Eutaw: I desire to introduce a resolution which carries with it an amendment to the Constitution:

Whereas, The administration of the public health affairs is of great importance to every section of the State and is rapidly increasing as the public is educated to a proper support of it; and

Whereas, Such administration is almost entirely in the hands of the Board of Censors, composed of ten members, a majority of whom are generally elected from only three counties in the State, the selection of whom is often influenced by the selection of other officers of the Association occurring at the same time; and

Whereas, The unequal distribution of the members of the Board of Censors is unfair to other portions of the State, and not to the best interests of the health of the general public:

Be It Resolved, That Article 30 of the Constitution of the Medical Association of Alabama be amended to read as follows:

Article 30. The President shall be elected for one year, the Vice-President for two years, in such way as that one vacancy only will occur annually by expiration of official term; the Treasurer for five years; the Secretary for five years; the Censors for five years in such way that two vacancies will occur annually by expiration of official term.

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One Censor shall be elected from each Congressional district, and they shall be elected from the districts where vacancies exist in numerical order of the districts as vacancies occur in the Board of Censors.

The Secretary of the Association shall on the second day of each annual meeting of the Association announce from what Congressional districts vacancies will occur, and the delegates and counsellors from such Congressional districts shall hold meetings separately on the third day of each annual meeting and select, by majority ballot, the names of two counsellors from said districts and present them to the Association when the time comes for balloting for vacancies in the Board. The Association shall elect by majority ballot from the names submitted one of them to fill the vacancy on the Board from such Congressional district.

Article 32. Officers must be elected by ballot, and without nomination, except as indicated above.

The resolution was referred to the Board of Censors.

Dr. B. B. Simms, Talladega: Before you begin the reading of papers, there is a gentleman here from Talladega, Superintendent of the School for the Blind up there, and he would like to make a little talk so the doctors can understand those schools up there—Dr. Graves.

Dr. Graves: Mr. President and Gentlemen: It is useless for me to take up time in explaining to this body the objects of this school, because it is killing time, and you all know it; but my object is this, to impress upon the minds of the Medical Association the importance of letting this school be known throughout the entire State. We are very anxious to get in touch with every deaf and blind child in the State, and it is very difficult, for this reason, because most of them are generally in the rural districts, and they are generally of illiterate parentage, and they do not know anything about such a school. And frequently, too, we have applications to our school, especially the deaf, to bring children there that are feeble-minded—and, by the way, we ought to have a school especially for feeble-minded children in this State.

I have been working in this school for thirty-five years. When I came to Alabama we had about 40 or 50 children. This last year we enrolled 329 children, deaf and blind. We are probably getting most of such children in the school, but we

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want all of them. The number of deaf children under instruction now in the United States is about 15,000. These are from 150 schools, State, sectarian and private. For the blind there are about 55 institutions which enroll about 4,400 students. You see from that that there are considerably more deaf children in the schools than there are blind, and yet there are more blind in the population of the United States than there are deaf. That is because over twenty-five per cent. of the blind become blind after they reach 21 years of age, and blindness is gradually decreasing, while deafness is not decreasing. I suppose if we had in Alabama today all the deaf and blind children of suitable age we would not have over 450 or 500 children. I know today twenty-five or thirty deaf children that ought to be in the school that are not.

You understand that this school is supported by the State. The only things they have got to do is to provide for clothes and transportation, and after they finish school they are sent to Washington to the Gallaudet School. We have now two or three of our graduates attending the Gallaudet College, and we have recently organized an association for assisting the deaf and blind after they leave our institutions.

Of course, you understand that most of us who have no capital whatever when we start out in the world are considerably handicapped, the blind and deaf especially, and we are trying to organize now help for such children as these. Several of our states have established such organizations, and we do not want Alabama to be behind.

Now, I just want to say that if any of you physicians know of any deaf or blind children, come to me during the session and tell me about them so we can get in touch with them. I will probably visit most of those reported to me during the summer. Two years ago I was in Birmingham, and as a result of that visit we have today five or six children in the schools in Talladega that did not know anything about this school. Physicians told me about them and I visited the parents during the vacation.

The Gallaudet College is supported by the general Government. It is named for Dr. Gallaudet. He was the founder and first principal of the first school for the deaf established in this country—and, by the way, it was established in Hartford, Conn., in 1817. They have just recently celebrated their one

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hundredth anniversary, and his son is now Emeritus Principal of the school. This school is a college supported by the general Government, and graduates of the different schools for the deaf over the country are admitted by examination. The tuition and board are practically free; I think it costs them about a hundred dollars a year. The examinations are sent on to the different institutions, and the applicants are examined and then the papers are sent to Washington. They give them a regular academic course, and give them the degree of bachelor of arts and science, and they have also a course of normal training in the Gallaudet College where college graduates, or persons who can hear or talk, go there and receive instruction in teaching the deaf.

There has been a great deal of change in the education of the deaf in the past few years. Fifteen or twenty years ago the oral method was considered almost a failure. Today nearly all of our institutions have the oral method. That is, they teach the deaf how to articulate. We take a deaf child there that cannot hear or talk and we teach them to articulate, and they by the motion of the lips can detect what you say. Although this was tried years ago—it is not new, because the first institutions that were established for the education of the deaf, one of them I think was in Glasgow, Scotland, used the oral method in connection with the manual method, over a hundred years ago. There are some schools, however, in this country that use the oral method entirely. But I do not think it is the best. Now I visited the Mt. Airy School for the Deaf in Pennsylvania a couple of years ago, and I had a class of five that the principal brought to me. Nearly all of them became deaf between five and twelve years of age, and I could carry on a conversation with them just like I could with you, but I asked them this question: When not communicating with the teacher at the school do you talk to each other, or do you write or use the sign method? They said, "We use the sign method." So you see the oral method cannot supercede the manual. So we use both. Very often if a child comes to the school after he is twelve or fifteen years old it is impossible to teach him the oral method, but very often a person becomes deaf after reaching the age of forty-five or fifty, and they have been taught to read lips. I know there is a school for teaching the

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adult lip reading in Boston now, and I think it has been very satisfactory.

Dr. M. B. Cameron, Eutaw: I think I would be recreant in my duty to the people of Alabama, and especially to the blind and deaf if I did not follow Dr. Graves and say something about the institution at Talladega. It was my misfortune a great many years ago to be a member of the Legislature of Alabama. During that term the President came up and asked for an appropriation, and as usual Alabama was very short of funds. Nevertheless, he prevailed upon the Legislature to appoint a committee to go down there and investigate the school and make a report. I, for some cause or another, was selected as a member of that committee. My idea of the school at Talladega was the idea I had of the old field school that I attended when I was a boy eight or ten years old. I thought it was a wooden structure, probably with inferior teachers, and not much attention paid to instruction. I endeavored to get out of going there, but Dr. Johnson got me by the arm, put me on the train and kept me there a couple of days. It was a revelation to me.

There isn't any more important thing to the people of Alabama today than this deaf and blind institution. Every child in the State that is deaf or blind has a privilege that is a boon that cannot be afforded in any other way. What did I see there? I saw a splendid institution, great and grand buildings, with capable teachers, with an atmosphere of love surrounding the teachers and pupils that surprised me. Those teachers would walk out in the grounds with the children to meet them, and the children would run around them and grasp their hands. It showed there was something there besides instruction. I saw instruction there, not only from a literary standpoint, but from an industrial standpoint. They are taught everything, how to read and write and other things from a literary standpoint, and the deaf are taught draughting, printing, etc., and the blind are taught a great many things that they can do in after life.

Now the State of Alabama educates every blind and every deaf child free of charge to its parents, and yet you find parents who are recreant to their duty and will not send them there. And this institution teaches them thoroughly, and the child

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that comes away from Talladega is equipped to go out into the walks of life and do its duty as a citizen. (Applause.)

Dr. Simms: I have been in Talladega a good long while, and understand these schools. Did any of you ever think about how dependent and what a nonenity you would be if you were born deaf? Suppose you had never heard a word in your life, where would you be, what could you do? Now that is the way the children come there, a great many of them are born deaf, and they have never heard a sound. You cannot imagine how dependent those children are. They soon have them talking and reading after they go there. And those children grow to be farmers and dairymen; in other words, they are of some use, they are not dependents, they are able to take care of themselves and make a living.

Just to tell you one incident. I saw a little fellow there once who had been there a month or so. He had learned to say only a few words. He had learned what a baby was, and what a fly was. He was sitting at a window looking out. A gnat got on the window. I asked him what it was. He says, "It's a baby fly."

Dr. Graves: May I add one word more? I have been living in Alabama thirty-five years, and I never have met with, seen or heard of any one that ever did hear of a deaf tramp beggar who had been to the Talladega school. Now I think that is remarkable. I have met with several impostors, who protended to be deaf but were not, and I exposed them.

Dr. John A. Lanford, New Orleans, read a paper on "The Value and Limitations of Blood Examinations." Discussed by Drs. J. S. Turbeville, Century, Fla.; W. W. Harper, Selma; W. A. Sellers, Montgomery; W. R. Jackson, Mobile; Dr. Lanford, closing.

Dr. J. S. McLester, Birmingham, read a paper on the "Classification and Etiology of the Anemias."

Dr. I. C. Bates, Taylor, read a paper on "Chlorosis."

These two papers were discussed by Dr. William C. Maples, Scottsboro.

Dr. Chilton Thorington, Montgomery, read a paper on the "Differential Diagnosis and Treatment of the Leukemias."

Dr. Fred W. Wilkerson, Montgomery, read a paper on "Hemophilia."

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These two papers were discussed by Drs. W. W. Harper, Selma; T. B. Hubbard, Montgomery; H. S. Ward, Birmingham; H. L. Castleman, Sylacauga; W. H. Minchiner, Troy; Drs. Thorington and Wilkerson closing.

The Secretary: An ordinance of the Association requires the Secretary, on the morning of the third day of the session to make an announcement in regard to the filling of vacancies on the College of Counsellors. At this hour I cannot say definitely the number of vacancies that will occur, for the reason that unfortunately we have no regulation stating a time after which counsellors cannot register and be credited with attendance. So that if a counsellor comes in and registers at the last moment on Friday morning under our present rules he has to be credited with attendance at the meeting.

We have looked carefully over the list of counsellors, and it appears that there will be six vacancies. One counsellor has died. One counsellor at this meeting will be advanced to the roll of life counsellors. Two counsellors have failed in attendance, and one in dues. At the present time, according to the estimates made and published in the last Transactions, the counsellors are distributed among the districts as near as possible so that there will be an equal number in each district as compared with the number of members in that district. Leaving out now the corrections that will be made, this is the way they stand: The first district has one less than its number; the second district has one less; the third district has the number to which it is entitled; the fourth district has one more than the number to which it is entitled; the fifth district has four less than the number to which it is entitled; the sixth district has two more, the seventh district has two less; the eighth district has the proper number; the ninth district has one more; the tenth district has one less than the number to which it is entitled.

Counsellors who have been dropped will make vacancies to occur as follows and elections will have to be provided for in the districts named:

In the second district, owing to the fact that Dr. R. N. Pitts has failed in attendance for three years, there will be one vacancy. As that district has now one less than the number to which it is entitled the vacancy will be filled from the second district.

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There are no vacancies occurring from the dropping of members in the fifth district, but inasmuch as the record shows that the fifth district has four less counsellors than it is entitled to and in an effort to equalize the districts, two of the vacancies, produced by the advancement of Dr. Wyman of the tenth, to the rank of Life Counsellor, and the death of Dr. Monette in the sixth, will be filled by members of the fifth district.

The seventh district at present has two less than the number to which it is entitled. The number is reduced one further by the probable dropping of Dr. Baird for non-attendance, so that vacancy will be filled from the seventh district.

The eighth district at present has the number to which it is entitled. However, Dr. Howard, of Madison county, will be dropped for non-attendance unless he shows up by tomorrow morning, which will leave one vacancy in that district, and it will be filled from that district.

The principle upon which this distribution is made is this, that wherever a district is below the number to which it is entitled an effort will be made to give that district its normal number, and vacancies occurring in that district or in other districts will be filled in the order of the districts that are lowest in the number of counsellors.

The delegates and counsellors present at this meeting from each Congressional district constitute a nominating committee, and delegates and counsellors from the second, fifth, seventh and eighth districts should make arrangements to get together today. If you will by concert of action designate an hour I will announce the time at which you will meet to make your nominations. Those nominations, of course, will be subject to whatever changes may occur by the coming in of any of these gentlemen who may be dropped for non-attendance.

The President: You have heard the notice of the Secretary. Govern yourselves accordingly.

Dr. W. S. Britt, Eufaula, read a paper on "The Use of Oxytocics in Labor." Discussed by Drs. R. J. Griffin, Moundville; W. C. Maples, Scottsboro; H. G. Perry, Montgomery; Dr. Britt closing.

Dr. W. A. Gresham, Russellville, read a paper on "Puerperal Eclampsia."

Dr. R. S. Hill, Montgomery, read a paper on "The Cause and Management of Puerperal Eclampsia."

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These two papers were discussed by Drs. W. R. Jackson, Mobile; M. C. Thomas, Blocton; L. C. Morris, Birmingham; Dr. Hill, closing.

At 1:05 p. m. the Association adjourned until 2:30.

THIRD DAY, THURSDAY, APRIL 19.

Afternoon Session.

Called to order by the President at 2:30.

Dr. Daniel T. McCall, Mobile, read a paper on "Simplified Artificial Feeding."

Dr. J. H. Fellows, Pensacola, Fla., read a paper on "Acidosis in Infants and Children." Discussed by Dr. J. L. Bowman, Union Springs; Dr. Fellows closing.

Dr. W. F. Betts, Evergreen, read a paper on "Morbidity Following Confinement." Discussed by Drs. T. B. Hubbard, Montgomery; T. J. Brothers, Anniston; L. A. Jenkins, Birmingham; L. R. Stone, Taff; J. L. Snow, Montgomery; Dr. Betts closing.

Dr. J. U. Ray, Woodstock: I do not know how many of you have missed a man who has not missed a meeting of this Association for I do not know how many years. I know how busy you all have been in this hall in the scientific part of the meeting. But in the midst of it all I could not help missing this fine old war horse of the Alabama State Medical Association. So I decided during the lunch hour to practice what I preach, and that is to give a man some bouquets while he is living, and I have just had the pleasure of carrying up to Dr. W. H. Sanders a box of flowers from the Medical Association of the State of Alabama, and I also took the register and had the doctor sign his name as present at this meeting. And now I ask confirmation of this action by this Association.

Dr. W. W. Harper, Selma: Mr. President, I move we confirm this action by a rising vote.

Seconded and carried unanimously.

Dr. Ray: I wish to say that Dr. Sanders asked me to express his appreciation. He said, "Doctor, please express to the Association my very deep appreciation of this most elegant and timely remembrance."

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Dr. Harris P. Dawson, Montgomery, read a paper entitled, "The Lactating Woman, Her Care, Diet and Hygiene." Discussed by Drs. W. W. Harper, Selma; J. L. Bowman, Union Springs; J. H. Fellows, Pensacola, Fla.; Dr. Dawson, closing.

Adjourned at 4:25 p. m., in order that the members might enjoy the ride provided by the Chamber of Commerce, Rotary Club and the local doctors.

THIRD DAY, THURSDAY, APRIL 19.

Evening Session.

Called to order by the President at 8:15 p. m.

Dr. W. C. Gewin, Birmingham, read a paper on "Surgical Operation During Pregnancy." Discussed by Drs. W. R. Jackson, Mobile; Watkins, Montgomery; Caldwell, Huntsville; Dr. Gewin, closing.

Dr. F. W. Young, Hartford, read a paper entitled, "Headache." Discussed by Drs. H. S. Ward, Birmingham; A. L. Nourse, Sawyerville; Seale Harris, Birmingham; C. S. Chenault, Albany; Dr. Young, closing.

Dr. B. B. Rogan, Selma, read a paper on the "Treatment of Drug Habits." Discussed by Drs. W. B. Partlow, Tuscaloosa; and Rogan.

Dr. Walter A. Weed, Birmingham, read a paper on "The Present Status of the Local Application of Radium and X-Rays." Discussed by Drs. L. C. Morris, Birmingham; Marye Y. Dabney, Birmingham; Dr. Weed, closing.

Dr. Marye Y. Dabney, Birmingham, read a paper on "Vicarious Menstruation." Discussed by Drs. W. P. McAdory, Birmingham; L. C. Morris, Birmingham; Dr. Dabney, closing.

Dr. D. C. Donald, Birmingham, read a paper entitled, "Acute Ileus Following Abdominal Operations, with Report of Cases." Discussed by Drs. W. C. Gewin, Birmingham; W. P. McAdory, Birmingham; W. R. Jackson, Mobile; Dr. Donald, closing.

Adjourned at 11:20 p. m.

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FOURTH DAY, FRIDAY, APRIL 20.

Morning Session.

Called to order by the President at 9 a. m.

Dr. Welch: Dr. Joe Graves, of Talladega, is here, representing the schools for the deaf and blind. He would be glad if every doctor in Alabama would send him the names of all the deaf and blind children that they know of in their respective places of residence.

Dr. Graves: I would just state that if any of the doctors know of any deaf or blind children they can give me the names and addresses of the children while I am here, and I will communicate with them, and I would request the health officers of each county to send us those names, but especially any doctors who are here would give me these names. I will be in the hall all morning.

The President: Dr. Graves also desires that the health officers of the State should be requested to give him this information. He would appreciate it very much if the health officers, both municipal and county, would keep their eyes open and make a note of it and send him these names from time to time. I hope if there are any health officers present they will keep this in mind.

Dr. Perry: I move that this Association request all health officers to make a list of the deaf and blind in their respective counties, make some effort to find out about them and to furnish the names of all such to the institution.

The motion was seconded.

The President: I suggest that the registrar send these to the health officers.

Dr. Perry: We will gladly do that. We will get out a circular letter and send to every one of them.

The motion was carried.

The President: The next order of business is the report of the Board of Censors.

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FORTY-FOURTH ANNUAL REPORT OF THE STATE BOARD OF CENSORS, INCLUDING REPORTS OF THE STATE BOARD OF MEDICAL EXAMINERS AND OF THE STATE COMMITTEE OF PUBLIC HEALTH.

The Board begs to submit this, its forty-fourth annual report.

The President's Message.

The President has briefly and with much good taste brought to our attention a number of interesting topics. The discussion of the prevalence of malaria in southeast Alabama is both timely and commendable.

First Recommendation. The President recommends that at least one paper on the prevailing diseases be read at each annual meeting and that the Registrar of Vital and Mortuary Statistics be appointed to read this paper. We heartily agree with the spirit of this suggestion and recommend its adoption.

The President here alludes to the retirement from active service of our beloved State Health Officer, Dr. Sanders, and bespeaks for his successor the hearty coöperation and support of the doctors of the State. Indeed, a great calamity has befallen us in the retirement and resignation of our beloved and peerless leader. Ill health has forced him from the active direction of the affairs of the Association, but he yet lives to counsel and advise. Let us hope that his example of loyalty and devotion to the Association will prove an inspiration to those of us who come after him and compel us to greater accomplishments as the years go by.

Second Recommendation. The President next mentions the evils which follow as a consequence of employment of inefficient midwives. The mortality and morbidity among infants and mothers is much too high.

He calls attention to a resolution introduced at the last meeting of the Association from the Houston County Medical Society and recommends that a committee on the prevention of blindness be appointed by this Association. The Board recommends the adoption of this recommendation.

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Third Recommendation. The President also endorses the movement to secure proper care and training for the defective and feeble-minded children of the State. The State Health Officer has been in correspondence with a gifted woman of Alabama on this subject, and the hope is indulged that a private institution of this nature will be established in the not distant future, and it is hoped it will serve as a nucleus for the building of larger things. The Board heartily endorses this portion of the President's message.

Fourth Recommendation. The Board especially commends that part of the message which discusses the election of county health officers. A health system with the county as a unit would seem an ideal proposition, but if an inefficient man be chosen to lead in the work we are courting failure. The suggestion of the President that the county health officer be selected by the Board of Censors has merit, but it must be borne in mind that the law provides the method by which county health officers are elected. Each society possesses the authority to appoint the Board of Censors a committee to select for them a ocunty health officer, reserving the right to accept or reject such selection as they may deem expedient. This would appeal to the Board as a most excellent method of procedure.

Fifth Recommendation. The President brings to our attention the subject of social health insurance and tentatively gives expressions to some broad and timely views on the subject. The Board feels that this is one of the problems of the future which should commend itself to the sober consideration of every thinking man. We heartily commend the President for calling the attention of the Association to this very important subject. The President, in response to a request from the committee of the American Medical Association, appointed a committee to report on social insurance at this meeting of the Association. This action of the President, while in line with progress and the needs of the hour, was somewhat out of order; it being the work of the Association alone to provide for committees. The Board, therefore, recommends that a standing committee be appointed to investigate the subject of social insurance and report its findings from time to time to the Association.

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The Minutes of the Meetings of 1916.

The Board has examined the minutes of the meetings of 1916 and finds them correct. The Board, therefore, recommends that the minutes as printed in the volume of the Transactions of 1916 be approved.

Report of Senior Vice-President.

The Board wishes to commend to the consideration of the members of the Association the report of the Senior Vice-President. His work has been carefully and conscientiously done. The Board recommends that the work of the Senior Vice-President during his official term be endorsed and indulges the hope that he may be spared many years in which he may render in the future as in the past conspicuous service for the Association.

Report of Junior Vice-President.

The report of the Junior Vice-President gives evidence of much labor and painstaking care in the discharge of the duties incumbent upon him. The successful efforts of the Junior Vice-President in the year just closed will make him more efficient in prosecuting the work in the office of Senior Vice-President, to which office he now succeeds. We bespeak for him your hearty coöperation in his work during the coming year. The Board recommends that the Vice-Presidents be directed to aid the Treasurer in collecting the unpaid dues from such counties as are delinquent.

Books and Accounts of the State Health Officer.

A standing committee appointed by the Board has examined the books and accounts of the State Health Officer for the fiscal year ending September 30, 1916, and through the term of Dr. Sanders, ending January 23, 1917. The Board finds that all the accounts are correct and the vouchers neatly filed. The Board, therefore, recommends the approval of these accounts.

Book and Accounts of Treasurer.

A sub-committee of the Board has examined the accounts of the Treasurer. The Treasurer has called attention to the fact

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that more than 300 doctors have failed to pay their 1916 dues, thereby causing a technical deficit in the income of the Association.

A number of counties also have failed to settle in full their dues to the Association. The Board recommends that the Treasurer be directed to collect these outstanding obligations to the Association and failing to do so, he shall report to the Association at the next meeting, for publication in the Transactions such counties as are delinquent.

The Report of the Secretary.

The report of the Secretary has been found interesting and complete. The Board recommends its approval.

Report of the Publishing Committee.

The report of this committee furnished the information covering its work for the past year. The Board recommends its approval.

Report of the Council on Nosology.

The Board has reviewed the report of the Council on Nosology, made by its chairman, who is also the Registrar of Vital Statistics. The report covers the subject, and should be read by every member in order that a correct nosology shall be maintained. The Board recommends the adoption of the report.

Report of Council on Pharmacy.

The report of the Council on Pharmacy is both interesting and comprehensive. The hope is indulged that every member of the Association will read this report. This report meets the hearty approval of the Board and we recommend its adoption.

Committee on Mental Hygiene.

The work of the Committee on Mental Hygiene has been a conspicuous feature of the work of this Association for the past two years. It is confidently believed that out of the investigations of this committee great good will be achieved towards the amelioration of the unfortunate conditions of the class of defec-

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tives which they are seeking to serve. The Board warmly endorses the report of this committee.

At the January meeting of the Board Dr. Sanders offered his resignation as State Health Officer. Dr. S. W. Welch, of Talladega, was elected as his successor. There was some doubt in the minds of the Board as to whether or not he was elected to fill the unexpired term of Dr. Sanders. On motion of Dr. Andrews the ruling of the Attorney General was sought. The Attorney General ruled that the present health officer was elected for a term of five years beginning January 23, 1917, there being no unexpired term to be filled. The opinion of the Attorney General is hereto attached (see p. 116). The Board recommends that its action in electing Dr. Welch State Health Officer be now ratified by the Association.

About the first of April a letter was received from Secretary of the Navy Josephus Daniels, notifying the Board that men in the senior classes of Class A. medical schools were being called to the colors for service in the Medical Reserve Corps of the Army and Navy. The Secretary wished to know if the failure on the part of these young men to take their full four years' course as now required by this Board would operate against them in the event that they wished at a subsequent date to apply for examination before the Medical Examining Board of Alabama. A short time after this, numerous letters from medical institutions in different parts of the country were received, stating that the institutions planned to begin the fourth year's term the first of June, graduating the present junior class next January. Inquiry was made as to whether men graduating in this extraordinary term would be eligible for examination should they appear before this Board at a subsequent date. The Board has ruled that all disabilities of a technical nature arising from an extraordinary measure calling men to the colors should be removed. The Secretary of the Navy and all institutions of learning have been notified of this action.

It will be recalled that at the meeting last year, in Mobile, the Association elected Dr. W. W. Dinsmore to the office of State Prison Inspector. This action was taken upon legal

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advice obtained by the Board at the time, and also in accordance with the provisions of the law creating the office. The election was held last year for the reason that the term of office of the State Prison Inspector would expire before the next annual meeting of the Association.

For the information of the Association it may be explained that Dr. Dinsmore has duly qualified for the office, having filed a bond and taken the oath of office, as prescribed by law. He has, therefore, already officially taken charge of the work and has gotten it well under way; and there is every reason to expect it to go forward now with increased efficiency and to the best interest of the State.

The Board has large responsibility to the State in this work. and it is very important that there shall be no question as to the legality of the election which was held last year. In order, therefore, to remove any doubt on this point which may have arisen, or which might arise later, the Board submits the following resolution and recommends its adoption.

It may be explained that this resolution has been submitted to the Attorney General and he has advised that it is in legal form and entirely covers any technical questions which may arise. The resolution is as follows:

Whereas, Dr. W. W. Dinsmore was elected State Prison Inspector at the last annual meeting of this Association for a term of six years beginning April 8, 1917; and,

Whereas, in order to remove any technical question as to whether said election should have been held at that meeting or at the present meeting of the Association;

Therefore, Bt It Resolved, That this Association does now ratify and confirm the action of the last meeting in selecting Dr. Dinsmore as State Prison Inspector; and does now, by the adoption of this resolution, elect Dr. Dinsmore State Prison Inspector for the term of six years, beginning April 8, 1917, in accordance with the provisions of the law creating said office.

A statute governing reciprocity was passed by the last Legislature. The time has not seemed propitious until now, to formulate rules for reciprocal relations which should be established between this Board and the boards of other states. The Board of Medical Examiners has adopted the following plan under

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which reciprocal relations may be established with all of the states:

ALABAMA STATE BOARD OF MEDICAL EXAMINERS.

RULES GOVERNING RECIPROCITY.

The Alabama Board of Medical Examiners, where applicants are licensed in other states which have reciprocal arrangements considered by this Board of substantially equal liberality with the conditions and requirements stated below, will admit to practice, without examination, applicants licensed in other states who comply with the following conditions and requirements:

1. All applicants for registration without examination must submit credentials in writing on blank forms furnished by the Board, said credentials to be filed with the Chairman of the Board not less than two weeks in advance of the semi-annual meeting at which the application is to be acted upon.

2. An applicant whose credentials appear satisfactory will be so notified and will be required to appear in person before the Board at Montgomery, Alabama.

3. An applicant must submit proof that he is a legally licensed physician in the State from which he applies; provided that satisfactory proof is furnished that he has obtained a license to practice medicine from the State Board of Medical Examiners of a State with which this Board reciprocates; provided also that he has practiced medicine for at least two years prior to his application to this Board. He must also present proof that he is a member in good standing of his State Medical Association or Society.

4. No applicant will be considered who has at any time failed in an examination before this Board.

5. Applicants for registration without examination shall be required to pay a fee of $50.00.

6. Applicants who graduated in 1907, or prior thereto, must submit in writing full particulars in regard to their pre-medical and medical education. In the case of this group of applicants the Board explicitly reserves the right to accept or reject the applicant as special circumstances and conditions may dictate.

7. Applicants who graduated in medicine in the years 1908 to 1913, inclusive, must present satisfactory evidence of having had

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a pre-medical course which shall have included four years of high school and at least two years in a recognized college, or the equivalent of such a course, and must also present a diploma showing graduation from a Class A. Medical School according to the classification of Medical Schools by the Council on Medical Education of the American Medical Association.

8. Applicants who graduated in medicine in 1914 and subsequent thereto must present satisfactory evidence of having earned a pre-medical degree of B. S. or its equivalent from an accredited school conferring such degrees; also evidence of having served an internship of at least one year in a recognized hospital after graduation from medical school.

9. All applicants must file a duly certified certificate of good moral character, said certificate to be furnished on blank form supplied by this Board.

An applicant's credentials shall consist of the following:

a. Written application giving full name, age, date, and place of birth, residence, and two unmounted photographs of applicant.

b. Certificate of good moral character signed by two physicians in good standing, and one prominent layman of the community in which the applicant has practiced.

c. Certificate giving full particulars concerning applicant's pre-medical education, said certificate to be duly signed by the school or college authorities authorized to sign such certificates, and duly sworn to before a notary public.

d. Certificate signed by the Dean of the medical school from which applicant graduated stating date of graduation, said certificate to be stamped with the seal of the college.

e. Statement from the Secretary of the State Medical Association or Society, certifying that applicant is a member in good standing of said Association or Society.

f. Statement from the Secretary of the State Board of Medical Examiners or State Licensing Board certifying that applicant has been legally engaged in the practice of medicine at least two years prior to date of application to this Board, said certificate to be signed and sealed by a notary public. This certificate must embody the subjects in which the applicant was examined, also the grades awarded on the several branches.

g. An affidavit stating that applicant, if licensed, will become a bona fide resident of this State, and stating place of intended residence.

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Intensive Community Work.

The International Health Board proposed to the State Board of Health some years ago to donate an equal amount of money as that appropriated by the State Board of Health for what is known as intensive community work. This was conditional on the counties in which the work was done appropriating a stipulated sum of money to meet the appropriated sums from the International Health Board and the State Board. There was never enough money available for the State Board to finance its part of the proposition. Negotiations have been recently reopened. It was found that there was not money enough at the disposal of the Board to finance the proposition. The health officer explained the financial condition of the Board and the work to be done, to his friend, Hon. H. L. McElderry, of Talladega, requesting him to make an effort to interest his sister, Mrs. L. A. Jemison, a benevolent lady of Talladega, in the work. Mrs. Jemison very promptly donated $500.00, which sum will enable the Board to prosecute the work. Sufficient funds to begin the work in DeKalb county have already been contributed by Mr. W.B. Davis, of Fort Payne. It is necessary to obtain two units before the International Health Board will be willing to undertake the work. Efforts will be made to secure the other unit in northeast Alabama at the earliest possible moment with the view of beginning the work by the first of May.

The rapid evolution of public health and welfare work in the last few years has found its expression in various methods successfully in operation in different states. In view of this fact it was thought wise by the Board that the State Health Officer should visit the states of Virginia and North Carolina for the purposes of studying the methods employed in these states in their public health work. It is now the purpose of the State Health Officer to visit these states in the very near future.

Quoting from the Transactions of 1916:

Contract Practice.

"At the last meeting of the Association the question of contract practice came up for consideration, it having been brought forward through a report from the Jefferson County Society.

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By this report the Association was informed that the present ordinance is being violated by members of the Jefferson County Society, the chief violations seeming to be as follows:

1. Contract based on nationality, under which medical service is rendered members of a society or organization for a monthly stipend from each member.

2. Contract made directly with employees of a corporation or manufacturing establishment, collections being made directly from employees, the corporation or manufacturing establishment itself taking no part in the contract.

3. Contract by which employees are assessed, a physician employed at a salary and required to attend all persons on the list, whether salaried officials or managers or ordinary employees. Corporations or manufacturing establishments may retain whatever part they choose of the amount raised by assessment beyond that which is necessary to pay the salary of the physician.

4. Contract that fails to define who are included under the term 'employees,' that is, fails to define whether this term include managers and salaried officials, or not.

5. Contract that fails to define who are included under the term 'injured,' that is, whether this term includes salaried officials and managers or not.

6. Contract by which hospitals furnish for a monthly stipend hospital attention to persons, whether these persons be laborers or salaried officials and managers. It appears that the attending staffs of physicians of these hospitals render medical and surgical attention to all of the beneficiaries, rich and poor alike, without remuneration."

After carefully considering the question of contract practice in all of its phases the Board believes that the best interests of the Association will be conserved by re-affirming its former rulings on this subject and reiterating its pronouncement found on page 43 of the *Compend,* and on pages 129 to 137, inclusive, of the Transactions of 1915.

The following resolutions introduced by Dr. Seale Harris at the last meeting of the Association were introduced too late to be acted upon by the Board. They read as follows:

Harris Resolutions.

Whereas, with the exception of three or four States, every State medical association in the United States publishes its own State

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journal, which journals are apparently successful financially, and aid in keeping up interest in organized medicine in those States:

Therefore, Be It Resolved, First, That a committee of five consisting of the Secretary, the President and three members of the State Board of Censors be appointed to investigate the advisability of establishing a State journal to be owned and controlled by the Medical Association of the State of Alabama, with the Secretary as editor and manager of such journal;

Second, That if the committee finds it practicable to establish the journal that the Transactions as now published be discontinued and published in said State journal;

Third, That the Association appropriate the funds now used for defraying the expense of the Transactions towards the maintenance of the State journal, providing such journal is established;

Fourth, That the Secretary's salary be increased because of his services as editor when the journal's finances will warrant payment of a salary;

Fifth, That the committee, if it finds the establishment of a State journal practicable, be empowered to take the necessary steps towards establishing such a journal at once.

The Board is heartily in sympathy with the spirit of the resolutions and feels that sometime in the near future it will be advisable to undertake such a work as is herein advocated. It does not agree that the Transactions should be discontinued, because they serve as the best method of keeping the records of the organization, but it does agree that a journal would be a great help to our work, could it be financed. In view of the fact that so many other things are projected by the Board for the incoming year it is deemed best not to take up this work at this time. We, therefore, advise that these resolutions be not adopted.

Amendments to the Constitution Submitted By Dr. W. H. Sanders.

At the last meeting of the Association various amendments, all looking to a general rearrangement of the provisions of the Constitution in reference to counsellors, were submitted by Dr. W. H. Sanders. It is the opinion of this Board that the rearrangement proposed by these amendments should be modi-

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fied in some respects and in order to carry out these modifications the Board submits the following amendments as substitutes for the amendments submitted by Dr. Sanders:

Amend Sections 1 to 8, both inclusive, of Article VI by making them read as follows:

Section 1. Counsellors shall consist:

(1) Of all "Permanent Members" of "The Medical Association of the State of Alabama" as it existed prior to the reorganization of 1873;

(2) Of all members of the College of Counsellors in good standing who were elected prior to the year 1917;

(3) Of such members of county medical societies in affiliation with the Association as from time to time may be elected to the position of counsellor.

Sec. 2. The counsellors, considered collectively, shall be denominated the College of Counsellors, and shall be graded as follows:

(1) Counsellors-elect;

(2) Active Counsellors;

(3) Life Counsellors.

Sec. 3. Counsellors-elect shall consist of those members, or delegates, not theretofore having been counsellors, who have been elected to the position of counsellor—they occupying the grade of counsellors-elect until the end of the annual session of the Association at which they are elected and until they have qualified as active counsellors as provided in the next succeeding section, and forfeiting their position as counsellors unless prior to the beginning of the next succeeding annual session they qualify as active counsellors as provided in the next succeeding section. The status of a counsellor-elect so forfeiting his position shall be the same as if he had never been elected.

Sec. 4. Active counsellors shall consist of those counsellors-elect who have qualified by notifying the secretary of their acceptance of the position of counsellor and signing the counsellor's pledge, and upon a revision of the Roll of Counsellors by the Association have been placed upon the Roll of Counsellors as active counsellors; of those who were junior counsellors or senior counsellors at the time the grade of active counsellor was established; and of those who by re-election have been kept on or returned to said Roll as active counsellors. When a counsellor, or one who has once been a counsellor, is elected again he shall be entered upon the Roll of Counsellors without qualifying again.

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Sec. 5. Life counsellors shall consist of those who were life counsellors at the time the grade of active counsellor was established and of those who, having served as active counsellors for twenty years, are transferred, upon a revision of the Roll of Counsellors by the Association, to the grade of life counsellor. They shall hold their positions for life, except as in this Constittuion otherwise provided. The time during which an active counsellor served as junior counsellor, or the aggregate time during which he served as junior counsellor and as senior counsellor, as the case may be, prior to the establishment of the grade of active counsellor shall be counted as part of said twenty years in his case. The word "year" when used in this article means the period from the end of one annual session of the Association to the end of the next annual session. In determining when an active counsellor shall become a life counsellor, his first term shall count as seven years, and as beginning at the end of the annual session at which he was first elected, whether he qualified before or after the date of the expiration of said annual session.

Sec. 6. In consideration of having served the Association for twenty years, and of having paid dues for that length of time, life counsellors, although entitled to the same rights in, and owing the same allegiance to, the Association as other counsellors, shall be released from the payment of annual dues, and also from the obligation of compulsory attendance upon meetings of the Association, imposed upon other counsellors.

Sec. 7. Counsellors shall be elected at regular annual sessions of the Association. The total number of active counsellors and counsellors-elect at any one time shall not exceed one hundred. The first term of a counsellor as an active counsellor shall begin at the end of the regular annual session of the Association at which he is elected but he shall not exercise the prerogatives of an active counsellor until he has qualified as provided in Section 4 of this Article. His subsequent term or terms, if he should be elected to succeed himself, shall begin at the expiration of the preceding term. The terms of an active counsellor shall be seven years for the first term, seven years for the second term, if any, and six years for the third term, if any. But when an active counsellor who has ceased to be an active counsellor is re-elected an active counsellor he shall become an active counsellor at the end of the annual session at which he is re-elected for a full length term if he served the whole of his previous term and, if he served only a portion of his previous term, for such a number of years taken in connection with the number of whole years

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served in his previous term as will make a term of seven years if it is his first term, seven years if it is his second term, or six years if it is his third term; and his whole years of service as an active counsellor under previous election or elections shall be counted in determining when he shall become a life counsellor. Active counsellors who have become such with the abolition of the grades of junior counsellor and senior counsellor shall without re-election hold their positions as active counsellors continuously for twenty years from the end of the annual session at which they were elected unless they forfeit their position.

Sec. 8. Nominations for the position of counsellor must be made as follows:

On the third day of each annual session, before the hour of adjournment of the morning session arrives, the secretary shall report to the Association, by congressional districts, a list of vacancies known at that time to exist in the College of Counsellors and of vacancies to occur at the end of that annual session. The delegates and counsellors in attendance from the respective congressional districts in which vacancies have been announced shall assemble at the respective places and times previously agreed upon by the president and the secretary of the Association, and announced at the time the secretary makes said report, for the purpose of making nominations for such vacancies. Such of said delegates and counsellors as so assemble shall, *ipso facto*, be the nominating committee for their respective congressional districts and shall by a majority vote of those present in said respective meetings nominate from among the active counsellors whose terms will expire at the end of that annual session and the members of the Association who are not counsellors, such a number of eligible members from among those residing in their respective congressional districts as corresponds with the number of existing and prospective vacancies announced therein by the secretary; and such nominations shall be reported forthwith to the Association. In the revision of the Roll of Counsellors should additional vacancies be announced nominations to fill such vacancies shall be made as nearly as practicable in the same way as is provided for above.

Amend sections 11 and 12 of Article VI by making them read as follows:

Sec. 11. An active counsellor moving out of the congressional district from which he was elected shall thereby, *ipso facto*, forfeit his position as a counsellor.

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Sec. 12. No obligation shall rest upon counsellors or delegates to vote for the nominees proposed by the committees, they being at liberty to vote for other eligible persons from the same congressional districts as the respective nominees.

Amend section 13 of Article VI by substituting for the words "House of Counsellors" therein the words "College of Counsellors."

Amend sub-section (3) of section 14 of Article VI by making it read as follows:

(3) They shall, except as in this Constitution otherwise provided, hold their positions for the terms herein prescribed unless removed by death, resignation or impeachment or for neglect of duty.

Further amend Article VI by striking therefrom section 15.

Should the above amendments be adopted it will be necessary to amend the ordinance relating to the revision of the rolls and this Board, therefore, recommends the adoption of the following ordinance:

An Ordinance to Amend Section II of An Ordinance Entitled "An Ordinance In Relation to the Revision of Rolls."

Section I. Be it ordained by the Medical Association of the State of Alabama, That Section II of an ordinance entitled, "An Ordinance in Relation to the Revision of the Rolls" (See page 52 of the *Compend*) be amended so as to read as follows:

Section II. The order of the Revision of the Roll of the College of Counsellors.

(1) Be it further ordained, That in like manner and after due consultation the committee on the revision of the rolls shall prepare five lists or schedules of the counsellors of the association. The first list shall contain in alphabetical order under the heads of life counsellors and active counsellors the names of all such counsellors as have complied with the rules of the Association in regard to attendance and dues, and against whom no charges are pending. The second list shall contain in like order the names of all such counsellors as may be delinquent in attendance or in dues, or against whom charges may be pending. The third list shall contain the names of all such counsellors as may have died since the last revision, or have offered their resignations, or have moved out of the State or out of their respective congressional districts. The fourth list shall contain the names of all active counsellors of twenty years standing.

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The fifth list shall contain the names of all counsellors-elect who have signed the pledge and paid the dues.

(2) These five lists or schedules shall be designated, respectively, as follows: (1) The schedule of counsellors clear on the books; (2) The schedule of delinquent counsellors; (3) The schedule of miscellaneous counsellors; (4) The schedule of active counsellors of twenty years standing; (5) The schedule of counsellors-elect who have signed the pledge and paid the dues.

(3) That when the time arrives in the progress of the revision of the rolls for the secretary to call the roll of the college of counsellors he shall first call consecutively all the names on the first of the lists provided for above; whereupon, the President shall say: *You have heard the names of the counsellors just read by the secretary and reported to be clear on the books. If there is no objection they will be passed.* And the order shall be made accordingly.

(4) Then the Secretary shall in like manner call all the names on the second list, provided for above; whereupon, the President shall say: *You have heard the names of the counsellors just read by the secretary and reported to be delinquent in their obligations to the Association. Under the rules, and if there is no objection, these names will be struck from the roll of the college of counsellors, and of this they shall be duly notified by the secretary.* And the order shall be made accordingly.

(5) Then the secretary shall in like manner call all the names on the third of the lists provided for above; whereupon, the President shall take such action in each case as may be appropriate under the circumstances.

(6) Then the secretary shall call all the names on the fourth of the lists provided for above; whereupon, the President shall say: *You have heard the list of names, as read by the secretary of the active counsellors who have served as such for twenty consecutive years. Under the rules of the Association these counsellors are entitled to be transferred to the roll of life counsellors. If there is no objection they will be so transferred.* And the order shall be made accordingly.

(7) Then the secretary shall read the fifth list provided for above; whereupon, the President shall say: *You have heard the list of names as read by the secretary of the counsellors-elect who have signed the pledge and paid the dues. Under the rules of the Association these counsellors-elect are entitled to be transferred to the roll*

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of active counsellors. If there is no objection they will be so transferred. And the order shall be made accordingly.

(8) Then the President shall say: *Have all the counsellors been called? Is there anything else to be done in relation to the revision of the roll of the college of counsellors?* And if there is nothing, he shall add: *The revision of the second roll is here ended. The roll of the college of counsellors stands closed until the next annual session of the Association.*

The Board further proposes the following:

An Ordinance to Provide for Giving Notice of the Time and Places for Assembling of Delegates and Counsellors for Making Nominations for Vacancies in the College of Counsellors.

Section 1. Be it ordained by the Medical Association of the State of Alabama, That the time for assembling of delegates and counsellors for making nominations for vacancies in the college of counsellors shall be 7:30 o'clock p. m. on the third day of the annual session of the Association and the President and Secretary shall make proper arrangements for suitable places for assembling.

The Board agrees that it is wise to make some further provision for the election of counsellors by congressional districts and, therefore, recommends and suggests the adoption of the following resolutions:

Be It Ordained by the Medical Association of the State of Alabama, That whenever the transfer of a counsellor to the roll of life counsellors, or whenever a counsellor is dropped from the roll from any cause, the vacancy shall be filled as follows:

1. If the district in which the vacancy occurs is left with a less number of counsellors than that to which it is entitled, the vacancy shall be filled from the said district.

2. If the district from which the counsellor is dropped should still have the number to which it is entitled, the Board of Censors shall designate which district shall have the privilege of selecting a counsellor to fill the vacancy.

3. That when it becomes the duty of the Board to apportion counsellors they shall be distributed among those districts in which the greater number of vacancies exist.

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As suggested by a motion made on the floor of this body yesterday, the Secretary was instructed to send the following telegram:

Montgomery, Alabama, April 19, 1917.

Hon. Woodrow Wilson,
President United States,
Washington, D. C.

The Medical Association of the State of Alabama in annual session assembled, recognizing the critical condition in the history of our country, unqualifiedly endorse the position taken by you toward the Imperial German Government, and the means and measures which you propose in order that the United States may readily assist in bringing the horrible war to a speedy and successful termination. The two thousand members of this Association, singly and collectively, unreservedly offer themselves to serve in any capacity which may be deemed best by the properly constituted authorities.

H. G. PERRY,
Secretary.

A reply was received as follows:

THE WHITE HOUSE
WASHINGTON

The President deeply appreciates your very generous and patriotic proffer of your services, and he wishes in this informal way to express his grateful thanks.

Rogers Resolutions.

A set of resolutions were introduced by Dr. Mack Rogers at the meeting in Birmingham in 1915. They were carried over to the Mobile meeting. Action was again postponed to the meeting now in session. The author of these resolutions appeared before the Board on Wednesday and requested the privilege of withdrawing them from further consideration by the Association. The Board recommends that Dr. Rogers be allowed to withdraw the resolutions.

Martin Resolutions.

Whereas, the examinations for old line life insurance have become so exacting, and,

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Whereas, some of the old line companies have, and are making the fees for the said examinations the lowest possible amount, and,

Whereas, those companies paying the said low fees, have stereotyped and almost insulting letters ready printed and promptly mail the said letters to a physician who demands a respectable fee, and,

Whereas, some of the old line companies demand 100 per cent. efficiency for a three-fifths fee,

Be It Resolved, That on and after the adoption of this resolution, it is unethical for a member of this Association to make an examination for old line life insurance for less than $5.00.

(Signed) C. P. MARTIN.

The Association adopted in 1907 similar resolutions to the above. The Board sees no good reason why it should not reaffirm its former ruling on these resolutions. See page 60, Transactions, 1907.

The Etowah County Appeal.

Charges were brought by Dr. H. L. Appleton against Drs. D. T. Boozer, C. L. Murphree, and W. B. Johnson, and the finding of the Etowah County Medical Society was in favor of the defendants. The matter is before this Association on appeal by the complainant.

The charges grow out of the testifying by these three members for the plaintiff at Chicago in the case of the Chattanooga Medicine Company against the American Medical Association and in their final analysis involve these three propositions:

1. That these members testified falsely.
2. That they testified for a monetary consideration.
3. That they testified in favor of a manufacturer and seller of a secret medicine or nostrum.

As to the first proposition it must be recalled that in stating that they would not believe a witness on oath these members made statements of fact which in the very nature of the case it would, unless by very exceptional evidence, be impossible successfully to controvert, even should prejudice or bad faith be assumed. And an opinion as to one's reputation for veracity is equally difficult of challenge.

This Board cannot, however, accede to the position that it is without jurisdiction to consider a charge of moral turpitude

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simply because the offense was committed in court. The liability of an offender to answer to a court of law gives him no immunity from answering also to this Association for his act insofar as that act is a violation of his duty to this Association. The Board considers this principle too plain for argument.

As to the second proposition the only compensation shown by the evidence is actual expenses of the trip and a per diem for the time required. There can be no objection on principle to an arrangement of this sort as there is no reason why a witness should suffer the expenses and loss of time resulting from his attendance on court. It goes without saying, however, that in all such cases the expense and per diem items should not be allowed to run into figures giving the slightest ground for the suspicion that the nature of the testimony is influenced thereby. The evidence sent up in this case does not, in the opinion of this Board, lay these members open to criticism on this point, though the very existence of the controversy shows the necessity in such cases of punctilious care for appearances as well as for fundamentals.

The third proposition is not so easily disposed of. A man cannot be condemned for testifying in a court of the land. It is, of course, often his highest duty to do so. If it is his duty he cannot be condemned for doing that duty without awaiting the compulsion of court process. The mere fact that the testimony of these members would indirectly aid a nostrum vendor in the sale of his wares does not make it absolutely necessary that they should refuse to testify; but this Board cannot close its eyes to the fact that the voluntary attendance, the no-ungenerous per diem, the nature of the evidence given at Chicago and the general atmosphere surrounding the whole case before the Etowah County Board of Censors and Medical Society, when taken together, must make the true friends of the best professional ideals regret that these members should have placed themselves in a position to be looked on as having been "swift witnesses" for the vendor in connection with this case.

Under all the circumstances it has seemed wisest to this Board to refrain from interfering with the decision of the Etowah County Medical Society, but to take this occasion briefly to discuss the important principles involved. It is,

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therefore, recommended that the decision of the Etowah County Society be affirmed.

This Board has gone over the matter fully and frankly with the complainant and he has decided under all the circumstances not to urge the rehearing of this case in detail on appeal. At the same time the Board made it plain to the complainant that the whole case would be gone into *de novo* if he preferred.

Attention is called to the fact that the members who are defendants in this proceedings are charged with having participated in the hearing of their own case before the Etowah County Medical Society and of voting in their own favor at this hearing. It need hardly be said that if this report is correct these members were guilty of most reprehensible conduct and the Etowah County Society is deserving of severe criticism for permitting such a thing to occur. An analysis of the vote, however, shows that the failure of these three members to vote would not have changed the result of the voting.

There are charges against Dr. W. B. Johnson, one of the members involved in this appeal in no way connected with the Chicago case and these charges involve both unprofessional conduct and moral turpitude. These charges were dismissed on the theory that the defendant was not a member of the Etowah County Medical Society but of the St. Clair Medical Society. The situs of his membership should be determined and the case referred to the proper county medical society if his membership is found not to be in Etowah County. It is the opinion of the Board that cases of this kind should be sifted to the bottom so that the ultimate decision will be a full conviction or a complete exoneration. It is, therefore, recommended that the case involved in this phase of the appeal be remanded to the Etowah County Medical Society for further hearing or transfer as the facts may justify.

Resolutions By M. B. Cameron.

***Whereas*, the administration of the public health affairs is of great importance to every section of the State, and is rapidly increasing as the public is educated to properly support it, and,**

***Whereas*, such administration is almost entirely in the hands of the Board of Censors composed of ten members, a majority of whom**

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are generally elected from only three counties in the State; the selection of whom is often influenced by the election of other officers of the Association occurring at the same time, and

Whereas, the unequal distribution of the members of the Board of Censors is unfair to other portions of the State, and not to the best interest of the health of the general public;

Be It Resolved, That Article 30 of the Constitution of the Medical Association of Alabama be amended to read as follows:

Article 30. The president shall be elected for one year, the vice-president for two years, in such way as that one vacancy only will occur annually by expiration of official terms; the treasurer for five years; the secretary for five years; the censors for five years, in such way that two vacancies will occur annually by expiration of official term. One censor shall be elected from each congressional district, and they shall be elected from the districts where vacancies exist, in numerical order of the districts as vacancies occur in the Board of Censors.

The Secretary of the Association shall on the second day of each annual meeting of the Association announce from what congressional districts vacancies will occur, and the delegates and counsellors from such congressional districts shall hold meetings separately on the third day of each annual meeting, and select by majority ballot the names of two counsellors from said district and present them to the Association when the time comes for balloting for vacancies in the Board, and the Association shall elect by majority ballot from the two names submitted one of them to fill the vacancy on the Board from such congressional district.

Article 32. Officers must be elected by ballot, and without nomination, except as indicated above.

In as much as these resolutions contemplate a change in the Constitution, they must lie over until the next annual meeting.

McAdory Resolution.

Be It Resolved, That the Association adopt a form of certificate which shall be sent to the mothers by the county health officers certifying the registration of the birth of the child.

W. P. McAdory.

The Board has been contemplating for some years the feasibility of adopting a certificate to be sent from the State Regis-

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trar of Vital and Mortuary Statistics to mothers certifying the registration of the birth of every child in Alabama. The expense of such a procedure in view of the present financial embarrassment of the Board would be prohibitive. The plan suggested by this resolution meets the approval of the Board and the Board recommends its adoption, to be put into effect as soon as uniform blanks can be prepared and the necessary funds provided.

Resolution of Dr. E. B. Ward.

***Resolved*, That the rule be changed and the annual meeting of the Association be held three days instead of four, lasting Tuesday, Wednesday, and Thursday.**

(Signed) E. B. WARD.

The adoption of this resolution would require an amendment to the Constitution of the Association, hence it must lie over until the next meeting of the Association.

Resolutions of Dr. W. W. Harper.

First resolution:

***Whereas*, Criminologists have shown that the present treatment of the criminal is unscientific, inhuman and unchristian,**

***Therefore, Be It Resolved*, 1st, That there be appointed a committee of five experts from the membership of the Alabama Medical Association to act with a like committee from the Alabama Bar Association for the purpose of re-writing the Criminal Code of Alabama, to the end that justice may be meted out to the criminal class.**

2nd. That this Association request the Bar Association to appoint a similar committee.

The Board commends the humanitarian spirit of this resolution but does not see just how it can be put into concrete form. The Legislature alone has the power to re-write the Criminal Code of Alabama and it perhaps would be indiscreet to appoint a committee at this time to take up this matter. We, therefore, recommend that the resolution be not adopted.

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Resolution by W. W. Harper.

Whereas, statistics show that in the school the sub-normal child is holding back the normal, thus delaying by several years the completion of the normal child's education; that the scheme of studies for the normal child is unsuited for the sub-normal, thus defeating the proper education of the sub-normal child;

Therefore, Be It Resolved, 1st. That there be appointed from the Medical Association of Alabama a committee of five to act with a similar committee from the State Educational Association to revise our system of education.

2nd. That a copy of these resolutions be sent to the Educational Association, and that they be requested to appoint a like committee.

The Association now has a standing Committee on Mental Hygiene that is doing a most excellent work along the line suggested by this resolution, and it does not seem that the work in hand would be facilitated by the appointment of another committee. We, therefore, recommend that this resolution be not adopted.

The Board has received the following communication from the Council on National Defense:

COUNCIL OF NATIONAL DEFENSE

WASHINGTON

April 16, 1917.

Dr. H. G. Perry,
Secretary Medical Association of the State of Alabama,
State Board of Health, Montgomery, Alabama.

My dear Dr. Perry:

It is extremely important that you bring the enclosed matter to the attention of your State Medical Society that is now in session. Impress upon the society the importance of their coöperation with the Government at this time in securing medical officers for the Army and the Navy.

Application blanks for enrollment in the service may be obtained by writing to this office, or to the Surgeons General of the Army and Navy.

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Looking to the protection of the practice of those who are called to the colors, we would suggest that you adopt some such plan as that outlined in the enclosure.

Very sincerely yours,

FRANKLIN MARTIN,
Member of Advisory Commission,
Council of National Defense.

F. F. SIMPSON,
Chief of Medical Section,
Council of National Defense.

PUNISHING PATRIOTISM—A SUGGESTED METHOD OF MEETING THIS EVIL.

Undoubtedly in the past civilian doctors who have been patriotic and who have served their country in the army or navy, have been in a measure punished for such service by finding their practice dissipated and gone on their return home. The knowledge of this has naturally acted in preventing many a physician entering the Officers' Reserve Corps of U. S. at this time.

To meet this situation the committee proposes to have offered the following resolutions at the annual meeting of the state societies:

(1) "*Resolved*, That the (name of state society) recognizes the patriotism of those members of the medical profession resident in ..... who volunteer for the service of the U. S. Government, and in appreciation of this we recommend that should these members of the profession be called into active service, the doctors who attend their patients should turn over one-third of the fees collected from such patients to the physicians in active service or to his family."

(2) "*Resolved*, That the secretary of the society shall have prepared letter-blanks according to the form attached, to a number sufficient to supply those physicians who are called into active service, with a sufficient number, so that they can send a filled-out form letter to each patient or physician referring a patient, a carbon copy going to the doctor who has agreed to look after the physician's practice, and a second carbon copy to be sent to the secretary of the State society.

The secretary of the State society is instructed to file the carbon copies received by him, and on notification by a physician that he has terminated his service with the Government and has resumed his practice, the secretary of the State society shall then send out to

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each of the patients of the physician and doctor who have referred patients whose names and addresses he has received in the filed letters, a letter stating that the physician has resumed the practice of medicine, and requesting the patients and the physician in the name of the society to recognize the physician's patriotism by summoning him should he be in need of medical attention.

(3) The secretary of the State society is further instructed to have printed and sent to each member of the profession resident and licensed in the State the card entitled "Agreement," and on return of such signed card to him, to file it.

This method is the only one which we have been able to devise which can in any way meet the situation that confronts the doctor who is patriotic, and who is penalized for his patriotism by the loss of his practice. By this method the profession at large is "put upon its honor," the patients of the physician are urged to retain his services, and this urging is done, not in the doctor's name, but in the name of the profession and as a patriotic duty.

It is further recommended by the committee that after three notices have been sent, at intervals of one month, to each physician, a list of those doctors accepting such agreement shall be published in State Journal or otherwise.

AGREEMENT.

I agree to abide by resolution adopted in relation to fees for attendance on patients of doctors ordered into active service for the Government, and to keep such books as will readily show collections of such fees. I further agree to ask every patient whom I have previously treated, the name of his usual or last medical attendant and if such doctor is in the active service of his Government, to turn over monthly or quarterly to such physician, or his family if he so directs, one-third of the fees collected by me from this patient.

I further agree that when patients are referred to me by a physician or person who has not heretofore referred patients to me, to find out from such physician or person to whom, in the immediate past, they have usually referred their patients requiring the special services I can render, and if such physician is in the active service of his country, to turn over to him one-third of the fee collected from such patient. This paragraph shall likewise apply to consultations.

I further agree not to attend any patients referred to above, for a period of one year following the resumption of active practice by the physician who has been in active service.

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In the remote chance of misunderstanding or disagreements arising under this resolution, I agree to submit the facts to the Board of Censors of the County Society and abide by their decision.

(Signed).....

Date.....

After signing please mail this to secretary of State Society.

Dr.....

Address.....

PROPOSED FORM LETTER.

(Regular Letter-Head of State Society.)

M.....

Street.....

Postoffice.....

Dear.....:

As a member of the Reserve Corps of the United States Army, Navy, I have been ordered into active service by the Government, and on that account I am writing to you of this fact, so that, in case of illness, you may summon Dr.....

In my absence Dr..... of .....,

Telephone No....., has kindly consented to attend my patients, and I can heartily recommend him.

Sincerely,

.....

Resolution adopted by (Name of State Society):

"*Resolved*, That the (Name of State Society) recognizes the patriotism of those members of the medical profession resident in.....

.....who volunteer for the service of the U. S. Government, and in appreciation of this we recommend that should these members of the profession be called into active service, the doctors who shall attend their patients should turn over one-third of the fees collected from such patients to the physician in active service or to his family."

Please Present This Letter to Any Doctor Whom You May Call In to Attend You.

This is a matter provided for by the Code of Ethics of the Alabama State Medical Association. The Board believes that the profession of the State will take care of their brethren who answer the call to the colors without the adoption of any

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stringent regulation seeking to compel them to honorable and unselfish service.

Part II of the Report of the Board of Censors consisted of report of examinations held by the Board of Medical Examiners, July, 1916, and the financial statement for the fiscal year ending September 30, 1916; also a report of Vital and Mortuary Statistics.

Part III consists of the Report of the Laboratory and Pasteur Institute.

These parts of the report are submitted without being read.

In conclusion, the Board wishes to congratulate the Association upon its continued prosperity, upon the bright outlook before us as the State Board of Health, and to pledge our best efforts toward the consummation of the objects for which the Association was organized.

PART II OF REPORT OF BOARD OF CENSORS.

FINANCIAL STATEMENT FOR THE FISCAL YEAR ENDING SEPTEMBER 30, 1916.

THE STATE BOARD OF HEALTH,

In Account with

THE STATE OF ALABAMA.

RECEIPTS.

Balance on hand September 30, 1915	$ 287.55
Cash received from State Treasurer	25,000.00
Total	$ 25,287.55

EXPENDITURES.

Date	*Items*	*Amount*
Oct. 9	A. J. Powers, salary for week	$ 12.50
13	C. T. Fitzpatrick, postage	15.00
16	A. J. Powers, salary for week	12.50
20	C. T. Fitzpatrick, stamped envelopes	63.72
20	J. V. Donley, expense account	25.00

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Date	Items	Amount
23.	A. J. Powers, salary for week	12.50
26	Dr. Wm. W. Dinsmore, balance due on expense account	3.01
30	A. J. Powers	12.50
30	Dr. W. H. Sanders, October salary	416.66
30	Dr. Wm. W. Dinsmore, October salary	50.00
30	Dr. H. G. Perry, October salary	200.00
30	Miss Bertha Perry, October salary	75.00
30	J. V. Donley, October salary	130.00
30	Dr. P. B. Moss, October salary	200.00
30	Dr. A. Trumper, October salary	141.66
30	Cummings McCall, October salary	50.00
30	Miss Rebecca Rutledge, October salary	50.00
30	Dr. R. C. Williams, October salary	150.00
30	Brown Printing Co., on account	300.00
Nov. 1	C. T. Fitzpatrick, postage	10.00
2	Davant Typewriter Co., shipping typewriter	3.70
4	Southern Express Co., October bill	1.29
6	Tresslar's Studio	1.57
6	Montgomery Map & Blue Print Co.	5.60
6	Western Union Telegraph Co., October bill	1.20
6	Gilbert Trunk Co., case for slides, etc.	3.75
6	John L. Cobbs & Co., merchandise	28.19
6	J. V. Donley, expense account Mt. Meigs, and balance due	6.15
12	Dr. H. G. Perry, expense account campaign DeKalb county	23.01
24	Mr. C. P. Anderson, on account rent for laboratory	50.00
30	Dr. W. H. Sanders, November salary	416.66
30	Dr. W. W. Dinsmore, November salary	50.00
30	Dr. H. G. Perry, November salary	200.00
30	Miss Bertha Perry, November salary	75.00
30	Dr. R. C. Williams, November salary	150.00
30	J. V. Donley, November salary	130.00
30	Dr. P. B. Moss, November salary	200.00
30	Cummings McCall, November salary	50.00
30	Miss Rebecca Rutledge, November salary	50.00
30	Dr. A. Trumper, November salary	141.66
30	Brown Printing Co., on account	300.00
30	J. V. Donley. expense account Montgomery county	5.15

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Date		Items	Amount
Dec.	1	Dr. W. W. Dinsmore, expense account, trip to Birmingham	11.36
	3	Montgomery Light & Water Power Co., laboratory	135.59
	6	Tresslar's Studio	.65
	6	D. Appleton & Company, books for office	3.50
	6	W. A. May & Green Mercantile Co.	.90
	6	Montgomery Map & Blue Print Co.	1.50
	6	Jos. S. Wing, locksmith	1.00
	6	Western Union Telegraph Co.	4.07
	7	C. T. Fitzpatrick, postage	250.00
	8	Southern Express Company	1.63
	31	Dr. W. H. Sanders, December salary	416.66
	31	Dr. H. G. Perry, December salary	200.00
	31	Dr. W. W. Dinsmore, December salary	50.00
	31	Miss Bertha Perry, December salary	75.00
	31	J. V. Donley, December salary	130.00
	31	Dr. R. C. Williams, December salary	150.00
	31	Dr. P. B. Moss, December salary	200.00
	31	Dr. A. Trumper, December salary	141.66
	31	Cummings McCall, December salary	50.00
	31	Miss Rebecca Rutledge, December salary	50.00
1916.			
Jan.	8	Brown Printing Company	400.00
	8	H. M. Alexander and Company, antitoxin	100.00
	8	C. P. Anderson, rent on laboratory	50.00
	12	C. T. Fitzpatrick, postage due	10.00
	17	W. W. Dinsmore, expense account, Atlanta	19.32
	29	Dr. W. H. Sanders, January salary	416.66
	29	Dr. W. W. Dinsmore, January salary	50.00
	29	Dr. H. G. Perry, January salary	200.00
	29	Miss Bertha Perry, January salary	90.00
	29	J. V. Donley, January salary	130.00
	29	Dr. R. C. Williams, January salary	150.00
	29	Dr. P. B. Moss, January salary	200.00
	29	Dr. A. Trumper, January salary	150.00
	29	Cummings McCall, January salary	50.00
	29	Miss Rebecca Rutledge, January salary	50.00
	29	Mrs. J. H. Perry, extra clerical help	26.25
	29	Miss Margaret Perry, extra clerical help	24.75
	29	Brown Printing Co., on account	400.00

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Date	Items	Amount
31	Dr. W. W. Dinsmore, expense account	93.71
Feb. 4	Montgomery Ice & Cold Storage Co.	3.50
4	J. V. Donley, trip to Camden	13.10
4	American Medical Association, bulletins	2.00
4	Age-Herald Publishing Company	6.00
4	Southern Express Company	7.71
4	Wm. H. Baldwin, Treasurer	2.94
4	Davant Typewriter Company	3.50
4	Addressograph Company	11.09
4	Montgomery Map & Blue Print Company	1.50
4	Montgomery Light & Water Power Co., laboratory	41.16
4	John W. Iliff & Company	1.00
4	Reeves-Owen Electric Company	2.00
4	Western Union Telegraph Company	13.36
4	Dr. S. W. Welch, expense account meeting Committee Public Health	18.71
4	Dr. D. F. Tally, expense account meeting Committee Public Health	11.36
4	Dr. V. P. Gaines, expense account meeting Committee Public Health	21.66
4	Dr. B. L. Wyman, expense account meeting Committee Public Health	11.86
4	J. V. Donley, trip to Moulton	25.05
15	Dr. H. G. Perry, trip to Greenville	3.20
16	Chas. A. Johnson, engraving 9 certificates	3.25
21	J. V. Donley, expense account	5.85
21	J. V. Donley, expense account	35.00
29	Dr. W. H. Sanders, February salary	416.66
29	Dr. Wm. W. Dinsmore, February salary	50.00
29	Dr. H. G. Perry, February salary	200.00
29	Miss Bertha Perry, February salary	90.00
29	Miss Lilla Lowry, February salary	50.00
29	Dr. R. C. Williams, February salary	150.00
29	J. V. Donley, February salary	130.00
29	Dr. P. B. Moss, February salary	200.00
29	Dr. A. Trumper, February salary	150.00
29	Miss Rebecca Rutledge, February salary	50.00
29	Cummings McCall, February salary	50.00
29	Dr. Wm. W. Dinsmore, Prattville trip	4.80
29	Montgomery Advertiser, subscription for year	7.80

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Date	Items	Amount
29	C. T. Fitzpatrick, P. M., postage	22.00
29	Brown Printing Company, on account	300.00
29	C. P. Anderson, rent on laboratory	100.00
29	C. T. Fitzpatrick, P. M., for stamps	10.00
Mar. 1	Southern Express Company	2.95
14	Remington Typewriter Co., on new machines	21.00
16	Dr. R. C. Williams	25.31
20	Burroughs Adding Machine Company	25.00
20	C. T. Fitzpatrick, box rent	2.00
31	Dr. W. H. Sanders, March salary	416.66
31	Dr. W. W. Dinsmore, March salary	50.00
31	Dr. H. G. Perry, March salary	200.00
31	Miss Bertha Perry, March salary	90.00
31	J. V. Donley, March salary	130.00
31	Miss Lilla Lowry, March salary	50.00
31	Dr. R. C. Williams, March salary	150.00
31	Dr. P. B. Moss, March salary	200.00
31	Dr. A. Trumper, March salary	150.00
31	Miss Rebecca Rutledge, March salary	50.00
31	Cummings McCall, March salary	50.00
31	Dr. R. C. Williams, expense account for March	43.39
Apr. 5	Southern Express Company, March bill	2.68
6	Brown Printing Company, on account	300.00
6	Dr. H. G. Perry, expense account Hayneville	1.80
7	Dr. Dinsmore, trip to Talladega	7.05
10	Dixie Printing Company	.40
10	W. A. May & Green	1.80
13	Montgomery Map & Blue Print Company	3.00
13	Addressograph Company	1.33
13	John Wiley & Sons, book	3.00
13	American Medical Association, pamphlets	4.62
13	Southern Bell Telephone Company	19.20
13	American Multigraph Sales Company	4.41
13	P. M. Foltz, stereopticon slides	3.78
13	Burroughs Adding Machine Company	1.50
13	J. V. Donley	6.36
13	J. V. Donley, expense account	15.00
15	Miss Lilla Lowry, salary for one-half month	25.00
27	Dr. J. W. McCall, expense N. O. to Montgomery	23.12
20	Dr. J. W. McCall, salary 2 weeks	50.00

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Date		Items	Amount
	29	Dr. W. H. Sanders, April salary	416.66
	29	Dr. W. W. Dinsmore, April salary	50.00
	29	Dr. H. G. Perry, April salary	200.00
	29	Miss Bertha Perry, April salary	90.00
	29	Dr. R. C. Williams, April salary	150.00
	29	Dr. P. B. Moss, April salary	200.00
	29	Dr. A. Trumper, salary for 23 days	115.00
	29	Cummings McCall, April salary	50.00
	29	Miss Rebecca Rutledge, April salary	50.00
	29	J. V. Donley, April salary	130.00
	29	Dr. R. C. Williams, to balance expense account to date	3.86
May	1	Dr. W. H Sanders, official telegrams	7.30
	1	Dr. W. W. Dinsmore, expense account	28.70
	1	J. V. Donley, trip to Piedmont	12.44
	3	Brown Printing Company	300.00
	4	C. P. Anderson, rent in full 1915 (laboratory)	130.00
	4	Remington Typewriter Co., payment on machines	30.00
	4	Mercantile Paper Co., on account	100.00
	4	Southern Express Company	1.19
	5	Western Union Telegraph Company	20.13
	5	C. T. Fitzpatrick, postage	10.00
	10	J. V. Donley, expense account	31.54
	19	J. V. Donley, expense account	5.64
	25	J. V. Donley, expense account	8.59
	26	C. A. Mohr, expense account meeting Committee Public Health	14.00
	29	R. C. Williams, traveling expenses	67.15
	31	Dr. W. H. Sanders, May salary	416.66
	31	Dr. W. W. Dinsmore, May salary	65.00
	31	Dr. H. G. Perry, May salary	200.00
	31	Miss Bertha Perry, May salary	90.00
	31	J. V. Donley, May salary	150.00
	31	Dr. R. C. Williams, May salary	150.00
	31	Miss Catherine Dent, May salary	40.00
	31	Miss Rebecca Rutledge, May salary	50.00
	31	Cummings McCall, May salary	60.00
	31	Dr. J. W. McCall, May salary	125.00
June	3	J. V. Donley, expense account	6.55
	6	Brown Printing Co., on account	200.00

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Date		Items	Amount
	6	Burroughs Adding Machine Co.	25.00
	6	Montgomery Map & Blue Print Co.	7.48
	6	Remington Typewriter Company	33.50
	6	Brooks & Crawford, legal services	40.00
	6	Little Paint Store	.90
	6	John M. Todd, rubber stamp	.75
	6	American Multigraph Sales Company	5.47
	6	Consolidated Dray Line	1.69
	6	Postal Telegraph Company	1.52
	6	Western Union Telegraph Company	5.80
	6	Southern Express Company	9.46
	6.	McGehee Brothers	19.40
	6	Hynson Westcott Company	8.00
	7	J. R. Ridlon, M. D., laboratory services	122.95
	9	J. V. Donley	5.56
	10	Simon Bryant, carpenter work	2.25
	10	Dr. H. G. Perry, expense to Opelika	5.00
	15	Engineering Record, subscription	6.00
	16	C. T. Fitzpatrick, postage due account	10.00
	20	Dr. P. B. Moss, 20 days' salary	116.65
	20	C. T. Fitzpatrick, post cards	5.00
	21	J. V. Donley, expense account	8.91
	26	Dr. W. W. Dinsmore, June salary	65.00
	28	C. T. Fitzpatrick, P. O. box rent	2.00
	30	Dr. W. H. Sanders, June salary	416.66
	30	Dr. H. G. Perry, June salary	200.00
	30	Miss Bertha Perry, June salary	90.00
	30	Dr. R. C. Williams, June salary	150.00
	30	J. V. Donley, June salary	150.00
	30	Miss Catherine Dent, June salary	50.00
	30	Dr. B. L. Arms, 16 days' salary	111.12
	30	Dr. J. W. McCall, June salary	125.00
	30	Cummings McCall, June salary	60.00
	30	Miss Rebecca Rutledge, June salary	50.00
July	1	Dr. R. C. Williams, expense account	35.38
	5	Brown Printing Company, on account	200.00
	5	H. M. Alexander, on account (antitoxin)	100.00
	5	Burroughs Adding Machine Company	25.00
	5	Southern Express Company	6.08
	7	J. V. Donley, expense account	26.84

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Date	Items	Amount
7	Dr. H. G. Perry, expense account Hale and Choctaw counties	35.58
14	C. T. Fitzpatrick, postage	43.72
14	J. V. Donley, expense account	25.00
17	J. V. Donley, expense account	12.38
25	J. V. Donley, expense account	19.56
28	J. V. Donley, expense account	8.00
31	Dr. W. H. Sanders, July salary	416.66
31	Dr. W. W. Dinsmore, July salary	65.00
31.	Dr. H. G. Perry, July salary	200.00
31	Miss Bertha Perry, July salary	90.00
31	Miss Catherine Dent, July salary	50.00
31	Dr. R. C. Williams, July salary	150.00
31	J. V. Donley, July salary	150.00
31	Dr. B. L. Arms, July salary	208.33
31	Dr. J. W. McCall, July salary	125.00
31	Cummings McCall, July salary	60.00
31	Mrs. Rebecca Cain, July salary	50.00
Aug. 1	Dr. B. L. Arms, expense account	43.20
3	Burroughs Adding Machine Company	25.00
3	Dr. L. W. Johnston, expense account July 10	9.60
3	Dr. D. F. Talley, expense account July 10	16.54
3	Dr. Glenn Andrews, expense account July 25	8.36
3	Dr. B. L. Wyman, expense account July 10	9.96
3	Dr. S. W. Welch, expense account July 10	15.70
3	John R. Tyson, legal services	25.00
3	Brown Printing Company, on account	100.00
3	Arthur H. Thomas, laboratory supplies	100.00
3	Montgomery Journal, subscription	6.00
3	Western Union Telegraph Company	9.58
3	Montgomery Map & Blue Print Company	1.50
3	Dixie Printing Company	2.50
3	Bobbs Merrill Company, book	1.25
3	Progressive Electrotype Company	3.91
3	H. A. Loveless, drayage	2.50
3	Elec. and Eng. Co.	1.80
3	J. Johnston Moore	3.25
3	J. V. Donley, expense account	20.62
21	J. V. Donley, expense account	35.28
21	Chas. A. Johnson, lettering certificates	12.00

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Date	Items	Amount
23	C. T. Fitzpatrick, P. M., postage	20.00
25	Dr. S. G. Gay, expense account	18.90
26	J. V. Donley, expense account	8.36
28	J. V. Donley, expense account	25.00
28	Dr. Glenn Andrews, expenses attending Health Conference, Washington	68.45
30	Dr. W. H. Sanders, August salary	416.66
30	Dr. W. W. Dinsmore, August salary	65.00
31	J. V. Donley, August salary	150.00
31	Dr. R. C. Williams, August salary	150.00
31	Dr. H. G. Perry, August salary	200.00
31	Miss Bertha Perry, August salary	90.00
31	Miss Catherine Dent, August salary	50.00
31	Mrs. Rebecca Rutledge, August salary	50.00
31	Dr. J. W. McCall, August salary	125.00
31	Cummings McCall, August salary	60.00
31	Dr. B. L. Arms, August salary	208.33
31	Brown Printing Co., on account	100.00
31	Burroughs Adding Machine Co., on account	25.00
31	H. M. Alexander Co., on account	100.00
31	C. A. Mohr, expence account, Committee Public Health	39.30
31	Dr. S. W. Welch, expense account, Committee Public Health	12.08
31	Dr. V. P. Gaines, expense account Committee Public Health	22.55
31	Dr. R. C. Williams, expense account	22.82
Sept. 2	Southern Express Co., July and August bills	14.36
4	Henry Meador, extra stenographic service	4.35
4	Dr. W. W. Dinsmore, expense account	7.05
5	C. T. Fitzpatrick, postage	10.00
5	Dr. I. L. Watkins, expense account, Birmingham	8.36
6	Montgomery Map & Blue Print Company	8.80
6	Addressograph Company	8.35
6	Multigraph Sales Company	2.72
6.	T. Fitzwilliams & Company	12.00
6	Dr. S. G. Gay	8.50
6	Dr. S. W. Welch	6.50
6	Dr. D. F. Talley	8.61
6	Western Union Telegraph Company	37.69

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Date	Items	Amount
11	C. T. Fitzpatrick, P. M., envelopes and post cards	58.56
12	Cummings McCall, extra services in laboratory	84.00
12	Dr. B. L. Wyman, expense attending meeting of Committee Public Health	9.11
14	C. T. Fitzpatrick, P. M., stamps	10.00
21	C. T. Fitzpatrick, box rent	2.00
28	C. T. Fitzpatrick, postage	10.60
30	Dr. R. C. Williams, 15 days' salary	75.00
30	Dr. P. P. Salter, 15 days' salary	62.50
30	J. G. Allen, 18 days' salary, laboratory assistant	24.00
30	Dr. W. H. Sanders, September salary	416.66
30	Dr. W. W. Dinsmore, September salary	65.00
30	Dr. H. G. Perry, September salary	200.00
30	Miss Bertha Perry, September salary	90.00
30	J. V. Donley, September salary	150.00
30	Miss Catherine Dent, September salary	50.00
30	Dr. B. L. Arms, September salary	208.33
30	Dr. J. W. McCall, September salary	125.00
30	Mrs. Rebecca Cain, September salary	50.00
30	Arthur H. Thomas Co., laboratory supplies	104.60
30	Dr. P. P. Salter, expense account	14.58
30	Dr. R. C. Williams, expense account	31.34
30	Burroughs Adding Machine Company	25.00
30	Dr. S. G. Gay, expense account, meeting Committee Public Health	3.25
30	Dr. L. W. Johnston, expense account, meeting Committee Public Health	4.46
30	Brown Printing Company, on account	100.00
30	Dr. P. P. Salter, salary September 9-15, inclusive	29.16
	Total expenditures	$ 25,059.51

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RECAPITULATION.

Balance on hand, September 30, 1915	$ 287.55
Cash received from State Treasury, September 30, 1915, to September 30, 1916	25,000.00
Refunded by Myers Manufacturing Company	21.60
Refunded by Anniston Water Supply Co.	10.31
Refunded by Decatur Water Supply Co.	11.11
Total	$ 25,330.57
Expenditures fiscal year ending September 30, 1916	25,059.51
Balance on hand September 30, 1916	$ 271.06

REPORT OF EXAMINATIONS HELD BY THE STATE BOARD OF MEDICAL EXAMINERS, JANUARY AND JULY, 1916.

SUMMARY.

Total number of applicants examined	92
Total number granted certificates	55
Total number refused certificates	37
Percentage of rejections	40.2

EXAMINATION HELD JANUARY 1916.

Number of applicants examined	29
Number granted certificates	9
Number refused certificates	20
Percentage of rejections	68.9

EXAMINATION HELD JULY 1916.

Number of applicants examined	63
Number granted certificates	46
Number refused certificates	17
Percentage of rejections	26.6

SUCCESSFUL APPLICANTS—JANUARY EXAMINATION, 1916.

Culberson, Artice Edward.
Day, Edward.
Gaston, Robert Bernard.
Greet, Thomas Young.
McCall, Julius Watkins.
Morgan, James Calvin.
Smart, Benjamin Franklin.
Thweatt, Daniel Harmon.
Weatherford, Zadoc Lorenzo.

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SUCCESSFUL APPLICANTS—JULY EXAMINATION, 1916.

Abernethy, Floyd Lamar.
Allen, Walter Earl.
Allison, James Monroe.
Barker, Hiram Onias.
Blaydes, James Elliott.
Brownlee, Leslie George.
Burns, William Wilkes.
Childers, Robert Jefferson.
Cowden, Arthur McCluney.
Deaver, Wilson Thomas.
Farrior, Lawrence Bryant.
Foshee, John Clinton.
Giscombe, Cecil Stanley.
Grady, Henry Wiley.
Graves, Alexander Wilson.
Hamil, James Young.
Hamilton, Grover Cleveland.
Hamner, Lewis Herschel.
Hannon, William Campbell.
Johnson, William Perry.
Kesmodel, Karl Frederick.
Keyton, John Arthur.
Lindsay, Ralph Reynolds.
Lister, Robert Hood.
Marlette, George Clark.
McCrossin, William P., Jr.
Odom, Stanley Gibson.
Payne, Brack Coleman.
Perry, Arthur Thaddeus.
Phillips, Herbert Lamont.
Piper, Barnie Lee.
Pollard, Emmett Eugene.
Porter, Ralph Emmett.
Price, Earl Sanders.
Price, Charles Wesley.
Randall, Clarence Cecil.
Ross, Cecil Herbert.
Salter, Paul Pullen.
Simpson, Harry Moody.
Smith, Green Hampton.
Sloan, Elihu Frank.
Taylor, John Cephas.
Taylor, John Francis.
Terry, Lucius Lamar.
Walls, Jesse James.
Watson, Jerre.
Windham, Lewis Anthony.

UNSUCCESSFUL APPLICANTS AS REPRESENTED BY COLLEGES.

Examination Held January, 1916.

Chicago College of Medicine and Surgery	2
Jefferson Medical College	1
Meharry Medical College	3
Vanderbilt University	2
Birmingham Medical College	9
University of Tennessee	1
Memphis Hospital	1
Howard University	1
Total	20

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UNSUCCESSFUL APPLICANTS AS REPRESENTED BY COLLEGES.

EXAMINATION HELD JULY, 1916.

Meharry Medical College	4
Atlanta Medical College	3
Mississippi Medical College	1
St. Louis School of Medicine	1
University of Tennessee	2
Birmingham Medical College	2
Bennett Medical College	1
Memphis Hospital Medical College	1
Vanderbilt	1
University of Alabama	1
Total	17

PART III OF REPORT OF BOARD OF CENSORS.

ANNUAL REPORT OF THE DEPARTMENT OF VITAL AND MORTUARY STATISTICS.

January 1st to December 31st, 1916.

H. G. PERRY, M. D., Registrar.
MISS BERTHA PERRY, Assistant.

Dr. W. H. Sanders,
State Health Officer,
Montgomery, Ala.

Dear Sir:—I have the honor herewith to submit the report of the Bureau of Vital and Mortuary Statistics for the year January 1st to December 31st, 1916.

I wish to acknowledge my indebtedness to my assistant, Miss Bertha Perry, also to Miss Catherine Dent, Mr. J. V. Donley, and Drs. Dinsmore and Salter, all of whom have rendered efficient aid in the arduous work of compilation and illustration of this report.

The reported death rate in the Registration Area of the United States Census Bureau for the year 1915 is 14.0 per 1,000 of popula-

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tion. The reported death rate for Alabama for 1915 is 10.50. For 1916 the deat rate for Alabama is 10.45 per 1,000 of population. The death rate in 1916 is lower in spite of the fact that more deaths were reported than in the previous year. (See Table I.) The reduction is due to the increase in population. It will be seen that the death rate in Alabama approaches to a reasonable degree that for the Registration Area.

Complete death registration cannot be attained until the Legislature of Alabama sees fit to enact the compulsory burial permit law which the State Board of Health has so earnestly recommended.

The birth rate for the Registration Area of the United States for the year 1915 is 24.9 per 1,000 of population. The birth rate for Alabama for 1915 (see Table I) is 21.2. The rate for 1916 is 23.9, which is the highest birth rate ever recorded for Alabama, and which is very little below that of the United States Registration Area. By reference to Table XIV it will be noted that 49 of the 67 counties are in our "Intra-state Registration Area" for births for the year 1916, while 55 counties reported a birth rate of more than 20 per 1,000 of population. For the year 1915 only 34 counties were in this Registration Area and only 42 counties reported more than 20 per 1,000. The registration of births is becoming more complete every year.

Reportable diseases are receiving more attention and efforts to limit their spread are meeting with considerable success. In proof of this statement the following facts are submitted:

The ten most common, and therefore most important, reportable diseases are as follows: Typhoid fever, malaria, measles, small-pox, scarlet fever, diphtheria, pellagra, pulmonary tuberculosis, cerebro-spinal meningitis and infantile paralysis. In the year 1915 there were reported 7,543 cases and 4,964 deaths from the causes named. In the year 1916 there were reported 12,377 cases of, and 4,802 deaths from, the above named diseases. The facts set forth justify the assertion that health officers are increasing in the efficiency of their work. As more counties adopt the full-time health officer plan greater improvement in the collection of vital statistics and in the conservation of the health of the people of the State will surely follow.

Respectfully submitted,

H. G. PERRY,
Registrar.

NOTE:—For statistical tables see Annual Report State Board of Health 1916, pp. 129-182.

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ANNUAL REPORT OF STATE LABORATORY, 1916.

Dr. W. H. Sanders,
State Health Officer.

Sir:—I have the honor to transmit the following report of the activities of the Laboratory of the State Board of Health for the year 1916.

REPORT OF THE STATE LABORATORY FOR THE YEAR 1916.

During 1916 the personnel of the laboratory force has been changed, with the exception of the stenographer—and she changed her name. Dr. P. B. Moss, Director since 1911, resigned to take up laboratory work in Selma. He left May 1st, for a trip to different laboratories, returning June 7th, and remaining to the end of the month. During his absence, at the request of the State Health Officer, the U. S. Public Health Service kindly detailed Dr. J. R. Ridlon to take charge of the work. Dr. B. L. Arms became director June 14th. April 23rd, Dr. A. Trumper, Assistant Bacteriologist, resigned to accept a position with the laboratory of the city of Philadelphia. Dr. J. W. McCall was secured to fill the vacancy.

In September, Cummings H. McCall, technical assistant, resigned to enter school at Auburn in preparation for the study of medicine, Joe G. Allen being appointed to fill the vacancy.

The laboratory is an institution for and belonging to the citizens of the State. It is hoped that they will make use of it more freely in the future than they have in the past. Outfits for sending specimens for the free diagnosis of diphtheria, tuberculosis, intestinal parasites, typhoid and malaria may be obtained by any physician, and they will be sent the day the request is received.

Tubes in which to submit specimens of blood for the diagnosis of syphilis may be obtained on request.

Containers for water samples may also be obtained, but it should be borne in mind that the bacterial examination of water is but one part of the investigation of the water supply, and the sanitary survey of the source is by far the more important, and without this, the laboratory is not justified in interpreting the bacterial findings.

There seems to be some misunderstanding in regard to the fee work done in the laboratory, and in order to correct this we wish to state that all fees go to the State Laboratory and *all* the running expenses of the laboratory, except salaries, are paid by this fund.

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All checks are deposited to the account of State Laboratory and should be made out to the State Laboratory.

A strict account is kept and a statement is rendered monthly to the State Health Officer of money received and paid out, the original vouchers being kept on file at the laboratory. The financial statement appears on page 122.

As we frequently receive specimens without any means of identification, not even a postmark in some instances, we would call attention to the following rule passed by the State Committee of Public Health at its meeting in July. Rule 6—"*All specimens for free examination must be accompanied by the name and address of the patient from whom the specimen is obtained, also the name and address of the physician sending the specimen.*"

SOME OF THE LIMITATIONS OF THE LABORATORY.

To Physicians:

This letter is prepared to point out to physicians some of the reasons why the Laboratory is at times unable to make requested examinations or to report more promptly.

Diphtheria—When a swab is received it is examined at once and if positive is so reported from the direct swab examination. Unless the swab is positive the culture must be incubated and examined the following morning. This is the first examination work of the morning and the reports go out on the next mail (11:30 a. m.) Delay in getting a report may be caused by delay in the mails. One case has just come to our attention, and on looking it up it was found that a report which was mailed to reach the doctor no later than Thursday a. m. did not reach him until Friday night, but no one thought of placing the blame anywhere but on the Laboratory, even though the report was dated? It is realized at the Laboratory that a prompt report in case of diphtheria means much to the patient and we try to assist in every possible way. If a wire is asked for it is sent as soon as the diagnosis is made. *Note the dates on report.*

Water—Probably there is more misunderstanding in regard to the examination of water than any of the Laboratory tests. Apparently it is thought that the Laboratory tests water for typhoid organisms, but this is not the case. Tests for colon bacilli are made as an index of fecal contamination. The presence of colon bacilli does not of itself mean that they came from a human source, for they may have come from any of the farm animals, including the fowls.

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Typhoid only comes from human sources. A sanitary survey of a water supply is much more important than any number of bacteriological tests, for it will determine not only if there is probable human contamination at present, but also if there is apt to be in the future. Practically every shallow well in any old community will show colon bacilli; every well will unless it is thoroughly protected.

Blood—It is surprising the number of times we are asked to examine blood sent in a tube for malaria. For this the blood should be sent in on a thin film on glass slides. The films should be allowed to dry in the air and packed back to back. Never put a drop of blood on a slide and put another over it when it is wet. The administration of quinine before taking the blood specimen will usually cause a negative report. A positive Widal is rarely obtained before the eighth to the tenth day of typhoid, and sometimes it is even later before it appears. Before a complete positive is obtained, there may be a partial reaction, and if this is found it is so reported with a request for another specimen after a few days.

Sputum—It must be borne in mind that tubercle bacilli are not found in the sputum until there is a breaking down of the tissue and an opening into the air passages, hence in the very early stages no tubercle bacilli are found in the sputum.

B. L. ARMS.

November 18, 1916.

NOTE—The statistical tables are published in full in the Annual Report of the State Board of Health, 1916.

APPENDIX TO REPORT OF BOARD OF CENSORS.

Hon. S. W. Welch,
State Health Officer,
Capitol.

Dear Sir:

In reply to an inquiry of your predecessor in office under date of January 22nd for advice regarding the length of the term of office for which you were elected on January 23rd, 1917, I beg to advise you that under the provisions of Section 704 of the Code the State Board of Health is authorized to elect an executive officer, to be known as the State Health Officer, and to fix his term of office and

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salary. In accordance with this provision, the Medical Association, which became the State Board of Health under the provisions of Section 698 of the Code, fixed such term of office at five years.—Book of Rules M. A. S. A., p. 139. There is a failure on the part of the Medical Association to recognize a fractional or an unexpired term in such office, a condition recognized by the supreme court in the case of State v. W. H. Sanders, 187 Ala. 79, that court expressly holding that there could be no unexpired term.

This rule of law is supported by the case of Clarke v. State, ex rel. Graves, 177 Ala. 188, wherein it was held that in an instance in which the law fixes a definite term of office for a certain number of years, without any limitation or reference to an unexpired term, a vacancy occurring is in the office and not in the term of office; and that when the vacancy is filled, the newly appointed or elected incumbent holds for a new and full term.

I have the honor to advise you, therefore, that the present State Health Officer is entitled to a full term of five years from the date of his election on January 23, 1917.

Very truly yours,

W. L. MARTIN,

Attorney General.

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ACTION ON THE REPORT OF THE BOARD OF CENSORS.

The sections of the report dealing with the President's message were adopted as read.

The section of the report dealing with the minutes of the 1916 meeting was adopted as read.

The section of the report in regard to the report of the Senior Vice-President was adopted as read.

The section of the report dealing with the report of the Junior Vice-President was adopted as read.

The section of the report dealing with the books and accounts of the State Health Officer was adopted as read.

The section of the report in regard to counties in arrears was adopted as read.

The section of the report dealing with the report of the Secretary was adopted as read.

The section of the report dealing with the report of the Publishing Committee was adopted as read.

The section of the report dealing with the report of the Council on Nosology was adopted as read.

The section of the report dealing with the report of the Council on Pharmacy was adopted as read.

The section of the report dealing with the report of the Committee on Mental Hygiene was adopted as read.

Dr. Talley then read the section of the report relative to the resignation of Dr. Sanders and the election of Dr. Welch. This section was adopted as read.

Dr. Welch: Gentlemen of the Association, I thank you for this expression of your confidence and regard. I realize that you have conferred upon me today the greatest honor that can come to a doctor in Alabama, but I want you to know that I feel that the honor which you have conferred upon me is completely overshadowed by the responsibility of the great trust and the opportunity which you have given me to do some things for Alabama that are worth while. Notwithstanding the fact that I am entering upon my duties in the same spirit that the boys are now answering the call to the colors, and with

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a degree of enthusiasm that I feel will bring me success—yet I cannot succeed, gentlemen, without the hearty coöperation and cordial support of each and every one of you. I hope each of you will feel that I am depending upon you individually, and that you will respond to this call from me to make the public health work of Alabama a success. I thank you, gentlemen. (Applause.)

The section of the report relating to the admission of men to examinations who have been graduated earlier than the end of the medical school year was then read. Dr. Perry moved that the action of the Examining Board in this matter be endorsed by the Association. Seconded. Carried.

The section of the report in regard to intensive community work was adopted as read.

The section of the report relating to reciprocity in medical licensure was adopted as read.

The section of the report relating to the visit of the State Health Officer to and the study of health work in other States was adopted as read.

The Chairman of the Board then read the section of the report in regard to contract practice.

Dr. Welch: Gentlemen, it was pretty generally believed that the question of contract practice would meet with some discussion, and if there are any expressions of views on this point, I think it would be very well to express them before this paragraph of the report is adopted.

Dr. McAdory: I move the adoption of this section of the Board's report.

The motion was seconded.

Dr. Baker: I hear several members asking what the previous action of the Association has been on that matter. If you are going to get up a discussion of it I think the thing to do is to read that section of the Compend.

Dr. Welch then read the section of the Compend relating to contract practice.

Dr. Welch: Now the ruling of the Board on these resolutions of 1915 includes about ten pages in the Transactions of 1916, and it is all summed up in a word, that each and every one of them is condemned by the Board as being not within the ruling of the ordinance on contract practice.

The section was adopted.

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Dr. W. F. Scott: I would just like to ask the State Health Officer what is the penalty for a violation of this ordinance?

Dr. Welch: The penalty is that imposed for any unethical practice.

Dr. Scott: Then it is unethical?

Dr. Welch: It is regarded as unethical, and the penalties are fixed by the code of ethics promulgated by the American Medical Association. Whether or not the ordinance has been violated is decided by each county medical society. The charges are referred to the Board of Censors, and after investigation are reported to the county medical society for action. The penalty is affixed by recommendation of the Board of Censors after being adopted by the county society.

Dr. Appleton: I would like to ask one question. Does a man being hired, does that come under the head of contract practice? Say that I go to a corporation—

Dr. Welch: If you make your contract with the officers of the corporation—

Dr. Appleton: Here is the point I am after. If I go to the president of that company, they have 2,000 men working for them, and I take the work for a stipulated salary, say 25 per cent of the pay roll, do I come under the head of an unethical doctor?

Dr. Talley: It depends entirely on what sort of a company it is.

Dr. Welch: The law is perfectly plain, and I would have to be informed of all the facts, as well as the ordinance before I could answer that. I would not like to make an ex parte statement as to whether or not a certain condition was a violation of the ordinance. In other words, you might be meaning one thing and I might think you meant another.

Dr. Welch then read the section of the report relating to the resolutions introduced by Dr. Seale Harris in regard to establishing a State journal.

Dr. Harris: I agree with the Board, but I would like to speak on that for a moment, please. Mr. President and gentlemen, I expect some of you wonder why it is that the editor of a medical journal published in this State is so heartily in favor of the State undertaking the publication of a journal. I would like to say that my sole reason for urging that this be done is that I believe that it would increase the effi-

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ciency and useful of the Medical Association of the State of Alabama As editor of a journal I receive in exchange all of the State journals published in the South, and those from many other states, and I see the splendid work that those journals are doing for their states, and I believe that if Alabama had such a journal it would increase the usefulness of the Medical Association of this State, that it would increase interest in medical work, and that it would be very much better in every way than the publication of the present transactions.

Now I heartily approve of postponing this question for the present, and I do not wish to override in any way the rulings of the Board of Censors, but I think it is a question that should be discussed and that all of us should understand, and I regret that I did not have the opportunity of going before the Board of Censors to discuss the question yesterday. I had to go back to Birmingham and was not here at the time when the Board was in session.

Of course, it is a very nice thing to have the transactions of the State Medical Association; it is a nice thing to have on the shelves of our book cases the series of transactions over a number of years, but the question is now, How much do we read those transactions? Now, they are good and they serve their purpose, you understand, but the only thing is as to whether or not a journal would not be better. I am interested in the Association—I believe I am almost as much interested as any man in the Association, and when the transactions come to me I read them for perhaps an hour or two. I do not read over all of the minutes; the fact of the matter is that I have forgotten a good deal as to what has gone on at the meeting before. Now when a journal is published the minutes of that meeting are published within less than a month, and every member of the Association gets the minutes of that meeting and he reads them, and, gentlemen, I submit to you if it would not be a splendid thing for every member of the Association of Alabama to have within the next month this splendid report of the Board of Censors we are having here today. I think it would be very much better than waiting until November for them.

Now, the question of the publication of the papers of the Association. Of course, they are published in a volume and the members get that. Well now, how many of you read those

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papers? I think, gentlemen, that the papers that are read before this Association will compare favorably with those of any medical association in the country. At this meeting there were some of the best papers that I have ever heard read here. How many of you are going to read those papers published in the transactions? If those papers came out in three or four months I think that you would read a great many more of them. For instance, the splendid address of Dr. W. J. Mayo, we would all like to have that within a month or two, but as it is we have to wait until November to get it.

Another thing: the papers that are read, are published in the transactions, but the Journal of the American Medical Association which lists every paper published in a journal in the United States, does not list papers published in transactions. Now here, for instance, a paper is read at this meeting; they are not listed with the Journal of the American Medical Association, but if they were listed the 60,000 subscribers to the Journal of the American Medical Association would know that a paper of such a title was read before the Alabama Medical Association, and if one were looking up the literature on that question he would want to write for a reprint of that paper, and it is very much to the advantage of the essayists if those papers are published in a journal.

Now that brings up this question as to why it is that the Southern Medical Journal cannot publish those papers—and there are a great many of them that we would like to publish. It embarrasses me very much that we cannot publish these papers that are read before this Association. The Southern Medical Journal covers sixteen states, and has obligations to all of them. In Texas we have nearly 1,200 subscribers. In Alabama we have 650, in Georgia 800. Those men in Texas that read papers before their State Medical Association would like to have their papers published in the Southern Medical Journal. We have had offers from the Florida State Medical Association and from the Mississippi State Medical Association to make the Journal the official organ and publish their papers, and a few days ago we had a letter from the secretary of the Louisiana State Medical Association, wanting to know if we would not publish their papers. Well, if we publish the papers read before this Association, the men connected with other associations will want the Journal to publish theirs, and it is a

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question of space. We publish sixteen original articles a month on an average, and we get 150 papers from the Southern Medical Association a year, which practically takes up ten issues of the Journal, and the finances of the Journal are such that the size of it cannot be increased; so that we have enough original articles now to last us until the November meeting, when we will get 150 to 175 more papers. That is the reason we cannot publish these splendid papers.

Now as a medium for the State Medical Association to reach its members. Here is matter in which all of the members of the Association are interested. If the members of the Association were getting a journal every month the President could have editorials and other matter that would be of interest to these men, and they could be reached every month without extra expense.

I realize that the question of expense is one of the most important things, as to whether or not the Association is able to run such a journal. Now if it were an experiment, I should say not to try it, but it is not an experiment. There are thirty or forty states in the Union in which the medical associations are publishing journals, and splendid journals at that, and some of them that are paying the association something besides increasing the salary of the secretary, as should be done. Of course, I do not mean to say that such a journal would increase the income of this Association very much; it is not going to get rich off of a journal; I cannot tell you that; but, at the same time, it could be published for less than it costs to publish the Transactions now. As it is all the papers that are read are published in the Transactions; all that you have got to do to make it a paying proposition is to get advertisements. The American Medical Association has a bureau of coöperative advertising in which they undertake to get advertising for the State journals, and they would almost at once get enough advertising to make it self-sustaining. And, of course, the business manager of the Southern Medical Journal would be glad to help to make it self-sustaining.

Another very important thing is that it would be a medium for the State Board of Health to reach the members of the State Medical Association, and of course, every member of the Association is a member of the State Board of Health—I mean the State Health Officer and the Committee of Public Health

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to reach them. Every month something is done. It is a splendid thing for us to have reports every month from the State Board of Health and to get the minutes of the State Board of Health. The State Board would get very much better coöperation from the members of the Association if they had a medium whereby they could reach the members every month. And I want to say in this connection that I think every one of us should in our hearts and our actions pledge to our new State Health Officer the absolute support and coöperation in improving public health conditions in Alabama. (Applause.) I shall certain do so myself, and I will take this occasion to say that while I have differed with the former State Health Officer as to methods, I have always entertained for him the greatest respect. If you will read what I have said there is no attack on the former State Health Officer, but simply a question of what I believed would improve conditions.

Now, gentlemen, we have got one of the very best State medical associations in the country. It is a fact that Alabama has more members in the State Medical Association in proportion to the number of physicians in the State than any other medical association in the United States. In other words, the Medical Association has actually gone farther in this State, so far as members are concerned, than any other State in the Union, but the question is: Is it the most efficient State Medical Association; is it performing the best service for the physicians of this State, as well as for the public, as it has that public function? I get these State journals, and I have had the opportunity of visiting most of the State medical associations in the South, and of sizing up something of the work that they are doing. I will say this, that with the exception of about four States out of the sixteen Southern States, the Alabama Association is the best medical association in the South, but those four States that I believe are doing the best work are those of Kentucky, Texas, Tennessee and Missouri. Now in every one of those States they have their State journal, and those men tell me that they believe that the State journal has a great deal to do with increasing the efficiency of their organization. It is my intention before the next meeting to get data on this subject from other States, whereby I hope that we can prove that the State Medical Association can publish a journal with their present income, and I am going to give notice now that before

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the next meeting I shall put in the hands of the Board of Censors the data that I hope to accumulate. I move the adoption of the report.

Dr. Baker: I would just like to say that as Secretary for a number of years of this Association I have given this matter quite a little thought myself. It is really a very important matter, and it is a very momentous one to decide whether or not to do away with our Transactions. Dr. Harris made the statement that he was afraid that the average member did not read his Transactions. I do not believe that is true. I believe this, that if every member of this Association will preserve the volume of these Transactions that comes out in 1917, and if he does simply one thing, if he will study carefully the report of the Council on Pharmacy he will find enough real meat and review of pharmaceutical preparations in the last twelve months to guide him aright in his work. That was a very excellent and able report submitted by the Council on Pharmacy. But there are a great many other things, and I know from my experience that the Transactions are read and frequently referred to. Some men tell me it is almost their Bible from year to year on getting the most up-to-date and accurate knowledge, some men do not take many journals. So the doing away with the volume of Transactions we now publish is a very serious question. We should weigh it most carefully before deciding. On the other hand, the points brought out by Dr. Harris as to a journal being a very nice medium of coming into frequent touch and contact with the men all over the State—there is no question about it. Dr. Perry gets journals from a great many States. And it is very encouraging indeed to see how those journals each month give in great detail exactly what is going on in the various States. For instance, when the legislature meets they give the most accurate information about the legislative work the State Association is trying to do, and we without that journal in the State of Alabama get that only once a year. There are a great many points pro and con, and I think this matter should be very carefully weighed before this action is taken.

Dr. Perry: I want to make one remark in regard to what Dr. Harris has said as to the time of issuance of the Transactions. Those of us who stay at home and work in the summer time get the Transactions in July. The reason Dr. Harris

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doesn't get them is that when they are issued he is off in Canada somewhere frolicking. (Laughter.)

Dr. Welch: Dr. Harris has discussed this proposition from the standpoint of the man in the city with his office and a certain amount of leisure time every day in which he can read his journal or anything else that he happens to be interested in. I heartily agree with everything that he has said. We ought to have a State journal, and I believe we will have a State journal sometime in the not distant future, but those of us who live in the smaller towns and in the country do not feel towards the journal like the gentlemen in the centers of population. The journal comes to us on a day when we are very tired. It is thrown upon the table, and very frequently it is swept into the fire and we never see it at all. We haven't time to read it. Unless there is some way to preserve the articles that come in a journal ninety pr cent. of the country doctors never see one of them at all. The reading and study that he does is at times when he hasn't anything else to do, and that isn't very often unfortunately, but certainly he can't take a journal when it first arrives, a weekly, and read it. There isn't one in a thousand that does it. But, on the other hand, the Transactions are in his book-case, and at times when he has a bad case of a given trouble he will refer to these Transactions, and he will refer to them back for years and years; he has them in easy reach. They are in files that in many instances run back for twenty-five years. All articles that have been read before this Association on a given subject, for instance, typhoid fever, or any of the common troubles that we come in contact with every day, he refers back to his Transactions and compares what other men have said and the experiences of other men in Alabama, not from a man in a center of learning, not from the scientific man, but from the practical fellows that have difficulties and troubles to contend with just as he has. To the country doctor—and they are the largest quota of our membership—I regard the Transactions as the most valuable asset which the State Medical Association has ever furnished him, and it would be a calamity to take them away from him.

Dr. Harris: Gentlemen, I have been a country doctor myself. And I remember very well how I did when I was living in the country, when I had to take long rides, and had to be detained, for instance, at an obstetrical case, and I think just

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about as good reading as I have done has been with the medical journal that I had stuck in my pocket. I would read that journal, and when I got back to the office I would file it. I think there are hundreds of physicians, I have been into their homes, and I have seen unbroken files of medical journals there over a number of years, and they could refer to those files of the medical journal just as well as they could to the Transactions, and I believe that they would file them. So that I think a journal would preserve the records and at the same time have the advantage of reaching the physicians each month.

Dr. Perry: I move the adoption of that part of the report.

The motion was adopted.

Dr. Welch then read the section of the report dealing with the amendments to the Constitution submitted by Dr. W. H. Sanders.

Dr. Morris: I do not understand exactly the Board's position regarding moving from one congressional district to another. As I understand it, there is a by-law in existence at the present time providing that when a counsellor moves from one district to another he forfeits his counsellorship unless he has been a counsellor for ten years.

Dr. Welch: Counsellors will now be elected for seven years, and the grade of senior counsellor is abolished. If in any part of any one of the terms to which the counsellor has been elected he moves to another district he forfeits his counsellorship.

The President: It matters not whether he has been a counsellor one year or nineteen years.

Dr. Welch: He can be a counsellor for three terms. He forfeits only the term for which he has been elected. A counsellor is elected for the first term for seven years. If he moves from his district during the course of his first term he forfeits that part of his term of seven years which has not yet expired. If he is reelected the first year after he has moved into another district, he gets credit for the time he served in the former district. When he has served the seven years he has got that to his credit, no matter what district he lives in. If he is elected to a second term of seven years and moves out of that district and into another district, he forfeits only so much of his second term as is yet unexpired. If he has served three years of this second term he gets credit for seven years of his

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first term and three years on his second term, but he does not get any credit for any part of a year. If he has served eleven months on his fifth year he only gets credit for four whole years; he forfeits his eleven months, and if he is reelected he gets credit for seven years full term and four years of a second term. If he is elected to a third term of six years, then he gets fourteen years' credit to start with. Then if he serves three years in his third term of six years, he gets credit for seventeen years.

Dr. Morris: I want to ask another question. If a man has served one full term of seven years and four years upon a second term and moves to another district, does he still forfeit his counsellorship?

Dr. Welch: Yes.

Dr. Morris: I feel that is contrary to the present rules of the Association. It cuts off from a man's service promotion to life counsellorship, and I think it is somewhat of an injustice for a man who has served eleven years, paid $110 of his $200; he has got no more chance to be elected a counsellor from a new district than a man who has just come there to practice. I can cite a case in point, of a man who has never failed to attend a meeting of this Association in twenty-three years, who, after a service of twelve or fifteen years in the college of counsellors, moved to another district, retained his counsellorship, did not forfeit his rights, and did not have to start over again, so far as adding up to his life counsellorship in the college of counsellors. It seems to me a little bit unfair to a man who has served seven years and served three or four years of the second term. I do not think he should be put on the same basis in the district to which he has moved as a man who has never served as a counsellor. I think it would be a good plan if the Board of Censors could provide some way by which injustice would not be done to a man who had served faithfully for ten years. The gentleman I have reference to is Dr. Seale Harris. He did not forfeit his rights in the college of counsellors.

Dr. Glenn Andrews: That can be rectified if it is the will of the Association by merely adding to that section, "Provided that wherever a counsellor has served two full terms, if he moves into another district he shall not forfeit his counsellorship." That would increase the time from ten to fourteen years.

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Dr. Appleton: How long has this ordinance been in force?

Dr. Welch: I had the honor of introducing that amendment to the Constitution in 1906, because of the fact that so many young men were moving into the district of Birmingham from other portions of the State, thereby keeping out of the college of counsellors men who were resident there, because they kept the district in which Jefferson county is located always with more counsellors than it was entitled to, and the men who were there and had been doing the work of the Jefferson County Medical Society for years and years were absolutely excluded from any hope of ever getting into the college of counsellors, because men were moving in from other parts of the State after having been elected counsellors. That is why this amendment to the Constitution was originally adopted. It had no qualification when introduced, but the Board amended the motion as I first made it by saying that if a man had served ten years he should then not forfeit his counsellorship if he moved.

This is a free country, and it seems to me that if a man feels that he gains more by moving into another district that he would lose by forfeiting his counsellorship, then it is up to him. It is a matter of free choice, he knows what he wants, and if he is elected in the fourth district and wants to move to the fifth or to the sixth or to the ninth district—there is where they almost always move to and don't ever seem to be ABLE to move away any more—it does seem to me he ought to have the right of choice as to whether or not the advantages of moving to the ninth district are worth more to him than his counsellorship. This is a free country, and he ought to decide that proposition for himself.

But the question would be of very easy solution just now if the Association wishes to make the change. It could be ordered that after having served fourteen years, if elected to his third term he would not forfeit his counsellorship by moving out of the district in which he was elected into another district.

Dr. Morris: I can see how a very embarrassing position might arise from the adoption of this amendment. Suppose that in the next fifty years the position of State Health Officer should become vacant and we should decide to elect a man residing in another district, that man would have to move from Birmingham or Mobile, say, to Montgomery, and he is only

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eligible to be State Health Officer by reason of the fact that he is a counsellor. If he should forfeit his counsellorship by having to move from his district to Montgomery where his office is, we might be debarred from getting the most useful man by reason of a little thing that don't amount to anything.

Dr. Welch: Dr. Sanders is still a citizen of Mobile, and I am still a citizen of Talladega.

Dr. Perry: The official residence is in Montgomery but it does not affect the private residence.

Dr. Ray: When an ordinary member in the country moves from one district to another it doesn't make any difference whether his citizenship is in Pumpkinville or Snodunk, they go ahead and strike him off. He has moved from one district to another. (Applause.)

Dr. Perry: I have had several questions asked me that indicate that the plan proposed is not clear to the minds of all the counsellors and delegates present. I wish to epitomize for a moment the plan as outlined. My understanding is that the plan proposed does not affect the standing of any life counsellor as now constituted or of any counsellor in the roll of junior or senior counsellors who are now elected or have been elected in the past year, so far as the termination of their service is concerned. That, for instance, Dr. Horn there, who is a junior counsellor, will go ahead and serve to the end of twenty years, when he will be advanced to the college of life counsellors. It doesn't affect him, but any man who is elected counsellor after the adoption of the proposed amendments will be elected for a period of seven years, at the end of which time he may be re-elected for another period of seven years, and at the end of that period he will be eligible for election again for a period of six years, to make up his twenty years, after the end of which he automatically goes to the college of life counsellors. That is the substance of the provisions that have been read. In order to make them definite and cover all contingenices they have to be, like laws, surrounded with a good many words that sometimes make us lose the meaning and sense of the thing. But that is the essence of it.

Dr. Oates: I just want a little information. I understand there is a provision in the Constitution which states that when a resolution is offered amending the Constitution it shall lie on the table for a year. Well it looks to me like a resolution was

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offered which we will call a colt and which has been turned out to us a full grown horse. I may be wrong in that. Most of us do not know what we are discussing here, but if this resolution has been modified to the extent that it has changed the meaning of the whole original resolution, I take it a good point of order that this should lie on the table for a year so we can see what it is and not jump into this thing blindly. Really I do not understand all of that thing in there; it may be my fault, but I really do not understand it all, and I really do not know what we are voting on, and I see some others who are a little higher up in intellect than I am who do not understand it. If it is in order I move that this part of the report be considered at our next annual meeting.

Dr. Welch: Dr. Oates' point is very well taken. The Board was not positive as to what the law in the premises was. So we consulted the best legal adviser, the best authority on Medical Association law in Alabama, as to what was the proper course to pursue, and he advised us that it was perfectly legal and right where the amendment was germane to the sense of the resolution and the amendment already introduced, that it was perfectly proper to modify it just so the intent of the proposed amendment did not change the intent of the original amendment. Now it is perfectly proper, if the Association is not ready to vote on this proposition, to carry it over for another year, and the Board does not wish to insist on hurried or immediate action. If anybody wants to study it still further it is perfectly proper for them to do so.

Dr. Ray: I move that this part of the Board of Censors' report be deferred until next year for action.

The motion, duly seconded, was adopted.

Dr. Welch: Here follows a section containing some ordinances intended to make operative the amendments just proposed. I take it that these ordinances are also deferred until the next meeting of the Association and are not to be read now.

The President: All this will be published in the Transactions, gentlemen.

The Chairman of the Board then read the recommendation of the Board on the resolutions introduced by Dr. Mack Rogers at the 1915 meeting. The action of the Board was sustained.

The section of the report relating to the resolution introduced by Dr. Martin was adopted as read.

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The section of the report dealing with the Etowah county appeal was adopted as read.

The section of the report relating to the resolutions introduced by Dr. McAdory was adopted as read.

The section of the report relating to the resolution introduced by Dr. E. B. Ward was adopted as read.

The section of the report in regard to the resolution offered by Dr. Harper relating to criminal laws was adopted as read.

The section of the report relative to the resolution offered by Dr. Harper in regard to the subnormal child was adopted as read.

The Chairman of the Board read the resolution from the Council for National Defense.

Dr. Welch: These resolutions were sent out by the Council on National Defense. They request this Association to pass a resolution requiring the members of the Association to take care of the practice of all such men as volunteer for service in the army and navy on the plan of giving either to the man in the service or to his family, as he may request, one-third of all the fees that accrue from practice among his patients. It is required that the man send to the President of the Association a list of the families which he attends, and that this list be sent to the doctors in the immediate community from which he volunteers, and that they be required to take care of him while he is absent. That is in a few words what is contained in the resolution. When the volunteer returns he must give notice to all of the community that he is there and ready to take up his work again; and that the other doctors in the community pledge themselves not to answer a call to the family of his clientele for one year from that time.

Dr. Baker: This is a very important matter. A resolution very similar to that has just been adopted by the Maryland Medical Society. They realize the importance of trying to protect the interests of those men who go to the front and the interests of their families by the men who are left behind at home, and even though this Association at the present time does not outline any definite plan whereby this should be done, I wish to urge, as Chairman of the State Committee for Medical Preparedness in Alabama, that when you gentlemen go back home you take this sentiment with you, that it is the bounden duty of those men left behind to protect the interests of those

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men who go to the front. The salaries of the majority of the men who will go to the front will not be sufficient to care for the needs of their families, and when they put down their work to serve their country I am sure that every man in this house is more than willing to do the right thing to protect their interests at home. I am going to urge you when you go home to communicate with your county societies, have a meeting and bring this matter before them, and take in each county some definite step looking to the end outlined in these resolutions.

I had in this morning's mail a communication from the Council of National Defense in Washington, which requests that the State Committee have a meeting at once and select a number of men who will be delegated the duty at once of visiting various county societies and making mental and physical examinations of applicants who wish to join the reserve corps. That answers for you a question asked me a number of times, When will definite steps be taken? They will be taken at once, and, gentlemen, all of you should try and have your county societies organized so that when the representative of the State Committee comes into your county you will be prepared to render him every possible aid. (Applause.)

Dr. McAdory. I move the adoption of this section of the report.

Seconded. Carried.

Dr. Welch: There was also a resolution introduced by Dr. Cameron, amending the Constitution in the manner of electing members to the Board of Censors, making them elective in the ten congressional districts. It will have to lie over until another year. It will be published in the Transactions.

Dr. Welch then read the section of the report in regard to the election of the State Prison Inspector.

Dr. Perry: I move the adoption of this section of the report and the resolution.

Dr. H. S. Ward: I second the motion.

Carried.

Dr. Welch: Part II of the report consists of the Financial Statement and the Report of the Board of Examiners.

Dr. McAdory: I move that the reading of the second part of the report be omitted.

Carried.

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Dr. Welch: Part Three consists of reports of the Laboratory and the Pasteur Institute, and of the Department of Vital and Mortuary Statistics.

Dr. McAdory: I move the adoption of Part Three of the report.

Seconded. Carried.

Dr. Morris: I move the adoption of the Report of the Board of Censors as a whole.

Seconded. Carried.

The Secretary: Before taking up the regular order of business, I have a communication just sent in from the Alabama Dental Association, stating that they have adopted a resolution providing for the appointment of a committee for the purpose of conferring with a like committee from this body to offer suggestions in the interests of public welfare, and to arrange a plan whereby they, as a profession, might be able to assist the State Board of Health.

Dr. McAdory: I move that this resolution be referred to the Board of Censors, with power to act.

Seconded. Carried.

Dr. Talley: Does that mean they are empowered to appoint the committee?

Dr. McAdory: If they want to.

Dr. Welch: I would just like to inquire if it is proposed for the Board of Censors to take action upon this proposition now or at its July meeting? The Board of Censors adjourned sine die, and it is a rule of this Association that resolutions introduced at this meeting be put off until the next meeting of the Board of Censors.

The President: The Chair understands that the Board of Censors has been given full power to act at once or to appoint the committeee at once if they wish.

Dr. C. A. Mohr: I wish to offer the following resolution:

Resolved, That the appreciation of the Association be expressed through the State Health Officer to those two generous citizens of Alabama, Mrs. L. A. Jemison, of Talladega, and Mr. W. B. Davis, of Fort Payne, for their liberal contributions which makes it possible for the Board to continue the intensive community work.

The resolution was adopted.

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The President: The next order of business is the revision of the rolls. The secretary will call first the roll of county medical societies.

The Revision of the Rolls.

The Secretary: All of the county societies have discharged all their obligations to the Association except as follows:

Delinquent in Delegates: Choctaw, Clay, Colbert, Fayette, Greene, Henry, Lamar, Limestone, Macon, Marshall and Sumter.
Delinquent in Reports From Secretary: Marshall.
Delinquent in Dues: Clay, DeKalb, Lawrence and Marshall.

The President: You have heard the names of those counties which are delinquent in their obligations. If there are no objections, the officers of this Association will be directed to use diligence in ascertaining and in correcting the causes of such delinquencies. We will now proceed to the revision of the roll of counsellors.

Revision of the Roll of Counsellors.

The Secretary: Schedule (a) All counsellors are clear of the books except those whose names appear on schedules b and c as follows:

The President: You have heard the statement of the Secretary relating to counsellors clear of the books. If there be no objection they will be passed.

The Secretary: Schedule (b) The following counsellors are delinquent as stated:

Baird, R. H., delinquent in attendance; Howard, I. W., delinquent in dues; Pitts, R. N., delinquent in attendance and in dues.

The President: You have heard the names of the counsellors just read by the Secretary and reported as delinquent in their obligations to the Association. Under the rules, and if there is no objection these names will be struck from the roll of the college of counsellors, and of this action the persons concerned shall be duly notified by the Secretary.

The Secretary: Schedule (c) The following counsellors have died since our last annual meeting:

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William Henry Sledge, Mobile, a life counsellor, and Reuben Fletcher Monette, of Greensboro, a junior counsellor.

The President: You have heard the names of those of our brother counsellors who have died. Let us cherish their memories and emulate their virtues. Peace to their ashes. I hereby appoint Dr. C. A. Mohr to convey to the family of Dr. Sledge the regrets of this Association, and Dr. H. G. Perry to perform the same service in the case of Dr. Monette.

The Secretary:

Schedule (d) B. L. Wyman has served 10 years as senior counsellor.

Schedule (e) E. B. Ward has served 10 years as junior counsellor.

Schedule (f) W. A. Stallworth, L. E. Broughton, J. M. Austin, P. M. Lightfoot, S. G. Carden, and W. O. Collins have served one year as counsellors-elect, have paid their dues and have signed the counsellor's pledge.

The President: You have heard the three schedules just read. If there are no objections the counsellors named will be advanced as provided by the Constitution. Have all the counsellors been called? Is there anything further to be done in relation to the revision of the roll of the college of counsellors? If not, I declare the roll of counsellors closed until the next annual meeting of the Association.

The Secretary: There is no change in the roll of correspondents. The names of correspondents are in the Transactions.

Election of Officers.

The President: The next order of business is the election and installation of officers. The officers to be elected are a President, a Vice-President for the Southern Division, two members of the Board of Censors for five years, to fill the places of Dr. Sanders and Dr. Wyman, and five counsellors. When the time comes the Secretary will read out the districts from which the counsellors are to be elected. First in order is the election of a President for the next year. I will appoint Drs. Ray and McAdory as tellers.

The balloting for President resulted as follows: W. D. Partlow, 64; W. W. Harper, 7; W. R. Jackson, 1; E. D. Bon-

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durant, 1. Dr. Partlow having received the highest number of votes cast, was declared elected President for the ensuing year.

The balloting for Junior Vice-President resulted as follows: W. F. Betts, 62; W. W. Harper, 2; J. L. Bowman, 6; L. E. Broughton, 2. Dr. Betts, having received the highest number of votes cast, was declared elected.

The President: The next in order is the election of two members of the Board of Censors to fill the vacancies by the expiration of the terms of Drs. Sanders and Wyman.

Dr. L. C. Morris: As I understand it, the resignation of our State Health Officer, Dr. W. H. Sanders, was handed to the Board of Censors in January of this year, and was accepted, and Dr. Welch was selected as his successor, and was elected by this Association today. Dr. Sanders' position upon the Board of Censors expires today. As a slight testimonial and evidence of our appreciation of the splendid service that has been rendered this Association in the past by Dr. Sanders, as a slight evidence of our devotion to him, I would like to move, Mr. President, if I am in order, that Dr. Sanders be reelected to the Board of Censors by acclamation.

Dr. Baker: The sentiment expressed in Dr. Morris' suggestion is very gracious, and yet it is against the rules of this Association to put any one in nomination. So the sentiment can still be at work and we can vote in the usual manner.

Dr. Morris: Under those conditions I will withdraw my motion, but I hope it is not necessary to say any more.

The balloting for two members of the Board of Censors resulted as follows: W. H. Sanders, 57; B. L. Wyman, 54; Seale Harris, 2; L. C. Morris, 1; O. S. Justice, 2; W. P. McAdory, 1; R. M. Cunningham, 1. Drs. Sanders and Wyman were declared elected for the ensuing five years.

Dr. McAdory: I move that we suspend the rules and that the Secretary be instructed to cast the ballot of this Association for five counsellors.

The following members were elected counsellors, the Secretary casting the ballot:

2nd District—P. V. Spier, of Wilcox county.

5th District—N. G. James, of Lowndes county; H. B. Disheroon, of Randolph county.

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7th District—J. C. Martin, of Cullman county.

8th District—F. L. Chenault, of Morgan county.

The President: I declare the gentlemen whose names have just been read by the Secretary duly elected as counsellors-elect.

The President appointed Drs. Baker and Morris to escort the newly-elected President to the platform.

The President: Gentlemen, it gives me great pleasure to introduce to you Dr. Partlow, your President for the ensuing year.

Dr. Partlow: It is not my purpose, gentlemen, to take up any of your time by a speech. I merely want, in a word, to express my profound gratitude for the honor you have conferred upon me, for the confidence you by this action bestow in me, and to assure you that I understand that this carries with it a responsibility which I fully appreciate. I consider this the greatest honor ever conferred upon me, and I assure you that I shall at all times during this year be interested in the welfare of this Association, and shall do everything within my power to make the next annual meeting a success. I realize, as you all do, that the success of a meeting depends more upon the loyalty and coöperation of the members of the Association than it does upon the President. I therefore ask the continued interest and coöperation of every member of the State Association, and particularly is this necessary for this year, as no doubt the effects of the strenuous times and the war will be felt by this Association as well as by the country at large. I therefore urge and insist that we have your continued interest and coöperation. (Applause.)

Dr. Walker: I am instructed by the Jefferson County Medical Society to extend a cordial invitation to this Association to hold your next meeting in Birmingham.

Dr. Mohr: I move that this cordial invitation be accepted:

The motion was seconded and carried.

Dr. McAdory: I think it would be hardly fair for this Association to adjourn without passing a resolution of love, best wishes and regrets that Dr. Sanders could not be here, and I therefore move that the Secretary prepare such a resolution and have it suitably engrossed and delivered to Dr. Sanders and published in the daily papers.

The motion was seconded and adopted.

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Dr. Ray: I move a resolution of thanks to the Automobile Club, the Rotary Club and the doctors of Montgomery for the automobile ride tendered the Association on Thursday.

Seconded. Carried.

Dr. Caldwell: I would like to offer a vote of thanks to the Medical Society of Montgomery County, the press of Montgomery, and the manager of this hotel, for the efforts that they have put forth and the entertainment they have given.

Dr. McAdory: I would like to make an amendment to that motion, that the Association commends the Montgomery County Medical Society for cutting out all entertainment.

Seconded. Carried.

At 12:20 p. m. the Association adjourned *sine die.*

A Copy of the Resolutions Sent Dr. W. H. Sanders By Order of the Medical Association of the State of Alabama, April 19, 1917.

Whereas, Dr. W. H. Sanders, on account of ill health, resigned as State Health Officer and as Chairman of the Board of Censors, which positions he has graced so long and filled with such marked ability and success, therefore,

Be It Resolved by the Medical Association of the State of Alabama, in annual session assembled,

First, That we hereby tender to Dr. Sanders the assurance of the appreciation, esteem and affection of every member of this body;

Second, That we indulge the hope that he may soon recover his usual health and be spared many years to give us the benefit of his wisdom and counsel;

Third, That in his declining years he may be sustained and comforted by the knowledge that he has been true to every trust, and valiant in his efforts for the advancement of organized medicine and for the welfare of the people of the State of Alabama.

Unanimously adopted.

HENRY GREEN, M. D.,
President.

H. G. PERRY, M. D.,
Secretary.

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REGISTRATION IN MONTGOMERY.

1917.

The following members and visitors attended the annual meeting:

LIFE COUNSELLORS.

H. G. Perry.....Montgomery
S. G. Gay.....Selma
Glenn Andrews.....Montgomery
B. J. Baldwin.....Montgomery
W. H. Moon.....Goodwater
R. L. Sutton.....Orrville
E. D. Bondurant.....Mobile
M. B. Cameron.....Eutaw
L. W. Johnston.....Tuskegee
J. E. Wilkinson.....Prattville
Wyatt Heflin.....Birmingham
J. T. Searcy.....Tuscaloosa
J. A. Howle.....Eclectic
D. E. Cason.....Odenville
W. H. Sanders.....Montgomery
L. L. Hill.....Montgomery
I. L. Watkins.....Montgomery
Geo. P. Waller.....Montgomery
Total, 18.

ACTIVE COUNSELLORS.

Henry Green.....Dothan
S. W. Welch.....Talladega
Chas. A. Mohr.....Mobile
D. F. Talley.....Birmingham
E. B. Ward.....Selma
E. M. Harris.....Russellville
W. D. Gaines.....LaFayette
J. L. Gaston.....Montgomery
J. U. Ray.....Woodstock
A. N. Steele.....Anniston

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O. S. Justice.....Central
W. C. Maples.....Scottsboro
Robert Goldthwaite.....Montgomery
W. D. Partlow.....Tuscaloosa
J. N. Baker.....Montgomery
J. R. Horn.....Luverne
W. S. McElrath.....Cedar Bluff
John P. Stewart.....Attalla
H. S. Ward.....Birmingham
Sam P. Hand.....Demopolis
L. E. Broughton.....Andalusia
Hugh W. Blair.....Sheffield
G. L. Gresham.....Andalusia
Mack Rogers.....Birmingham
J. M. Austin.....Wetumpka
C. A. Thigpen.....Montgomery
R. S. Hill.....Montgomery
J. O. Kennedy.....Kennedy
W. M. Cunningham.....Cordova
P. T. Fleming.....Enterprise
T. J. Brothers.....Anniston
J. M. Watkins.....Troy
Lewis C. Morris.....Birmingham
Seale Harris.....Birmingham
Jas. S. McLester.....Birmingham
J. L. Bowman.....Union Springs
E. B. Ard.....Ozark
W. F. Betts.....Evergreen
S. A. Gordon.....Marion
W. H. Oates.....Mobile
W. P. McAdory.....Birmingham
Jas. P. Turner.....Cropwell
H. J. Sankey.....Nauvoo
M. D. Smith.....Prattville
W. W. Harper.....Selma
John N. Furniss.....Selma
B. F. Bennett.....Louisville
W. B. Hendrick.....Hurtsboro
R. L. Justice.....Geneva
W. R. Jackson.....Mobile
C. A. Poellnitz.....Greensboro

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P. M. Lightfoot.....Shorter
M. C. Schoolar.....Birmingham
C. S. Chenault.....Albany
L. O. Hicks.....Jackson
M. S. Davie.....Dothan
H. P. McWhorter.....Collinsville
B. B. Simms.....Talladega
A. L. Harlan.....Alexander City
E. G. Givhan.....Montevallo
S. F. Mayfield.....Tuscaloosa
W. S. Britt.....Eufaula
M. L. Malloy.....Eutaw
W. M. Faulk.....Tuscaloosa
Total, 64.

DELEGATES.

Delegates in attendance at Montgomery session, April 17-21, 1917:

Autauga—J. E. Wilkinson, Jr., Prattville.
Baldwin—Joseph Hall, Bay Minette.
Barbour—W. P. Copeland, Eufaula; G. O. Wallace, Clio.
Bibb—S. C. Meigs, Centerville; M. C. Thomas, Blocton.
Blount—D. S. Moore, Oneonta; C. L. Stansberry, Oneonta.
Bullock—T. J. Dean, Union Springs.
Butler—A. L. Stabler, Greenville; C. Wall, Forest Home.
Calhoun—R. T. McCraw, Oxford; C. H. Cleveland, Anniston.
Chambers—T. H. Haralson, Cusseta.
Chilton—J. P. Hays, Clanton.
Cherokee—L. R. Stone, Taff; S. C. Tatum, Center.
Choctaw—None.
Clarke—J. A. Kimbrough, Thomasville; J. G. Bedsole, Grove Hill.
Clay—None.
Cleburne—L. R. Wright, Heflin.
Coffee—B. J. Massey, New Brockton; W. A. Lewis, Enterprise.
Colbert—None.
Conecuh—W. M. Salter, Repton.
Coosa—J. E. Harden, Rockford; A. K. Whestone, Rockford.
Covington—B. C. Stewart, Opp; J. C. McLeod, Opp.
Crenshaw—M. L. Morgan, Honoraville; F. M. T. Tankersley, Luverne.
Cullman—J. C. Martin, Cullman; Chas. Hayes, Cullman.

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Dale—J. L. Reynolds, Ozark.
Dallas—J. M. Donald, Marion Junction; B. B. Rogan, Selma.
DeKalb—L. McWhorter, Collinsville.
Elmore—J. S. Harmon, Elmore; S. P. Moon, Elmore.
Escambia—R. A. Smith, Brewton; F. L. Abernathy, Flomaton.
Etowah—I. C. Ballard, Gadsden; John Shahan, Gadsden.
Fayette—None.
Franklin—Jas. Copeland, Red Bay; W. A. Gresham, Russellville.
Geneva—M. E. Doughty, Slocumb; H. C. Riley, Coffee Springs.
Greene—None.
Hale—A. L. Nourse, Sawyerville.
Henry—None.
Houston—R. H. Mooty, Columbia; L. Hilson, Webb.
Jackson—A. Zimmerman, Larkinsville.
Jefferson—C. W. Shropshire, Ira J. Sellers, A. A. Walker, W. F. Scott, Z. B. Chamblee, W. C. Gewin, all of Birmingham.
Lamar—None.
Lauderdale—A. A. Jackson, Florence; S. S. Roberts, Florence.
Lawrence—W. R. Taylor, Town Creek.
Lee—M. D. Thomas, Opelika; C. S. Yarborough, Auburn.
Limestone—None.
Lowndes—N. G. James, Hayneville; G. C. Marlette, Hayneville.
Macon—None.
Madison—E. V. Caldwell, Huntsville.
Marengo—C. N. Lacey, Demopolis.
Marion—John L. Wilson, Hackleburg; D. M. Sizemore, Guin.
Marshall—None.
Mobile—J. M. Wilson, P. D. McGhee, J. O. Rush, all of Mobile.
Monroe—J. J. Dailey, Tunnel Springs.
Montgomery—M. R. Kirkpatrick, C. B. Laslie, C. H. Rice, F. W. Wilkerson, all of Montgomery.
Morgan—F. L. Chenault, Albany.
Perry—R. C. Hanna, Marion.
Pickens—A. M. Walker, Carrollton; E. B. Durrett, Gordo.
Pike—L. R. Boyd, Troy.
Randolph—J. M. Welch, Wadley.
Russell—W. T. Joiner, Pittsview; R. F. Elrod, Cottonton.
St. Clair—B. F. Smart, Odenville.
Shelby—S. D. Motley, Calera.
Sumter—None.
Talladega—J. A. Sims, Renfroe; J. P. Chapman, Talladega.

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Tallapoosa—J. O. Griffin, Alexander City; E. W. Hart, Dadeville.
Tuscaloosa—M. Moody, Tuscaloosa; J. J. Durrett, Tuscaloosa.
Walker—G. W. Jones, America.
Washington—J. Chason, Chathom.
Wilcox—E. E. Williams, Ackerville; P. V. Spier, Furman.
Winston—R. L. Hill, Lynn; T. M. Blake, Double Springs.
Total, 96.

MEMBERS.

T. Brannon Hubbard	Montgomery
J. H. Holly	Samson
J. U. Reeves	Mobile
W. A. Clark	Pine Barren, Fla.
P. I. Hopkins	Dothan
P. S. Mertins	Montgomery
Arthur Johnson	Clanton
J. G. Gilchrist	Brantley
D. P. Mixson	Skipperville
B. F. Rea	LaFayette
F. H. McConnico	Montgomery
H. J. Burnham	Birmingham
W. V. Stough	Montgomery
W. W. Dinsmore	Montgomery
Chilton Thorington	Montgomery
R. J. Griffin	Moundville
B. F. Anderson	Montgomery
F. C. Stevenson	Montgomery
J. W. Black	Ensley
J. Louis Snow	Montgomery
S. L. Ledbetter	Birmingham
Hugh Boyd	Scottsboro
D. S. Moore	Birmingham
G. C. Reynolds	Brundidge
C. L. Muprhree	Gadsden
K. B. Williams	Cecil
I. L. Johnston	Samson
E. Tankersley	Samson
Howard P. Rankin	Midway
W. B. Johnson	Birmingham
G. J. Greil	Montgomery

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I. A. Black.....Midland City
Gibson Reynolds.....Montgomery
J. P. Merrill.....Dozier
R. L. Huddleston.....Speigner
H. L. Appleton.....Gadsden
H. Priest.....Montgomery
T. A. Casey.....Birmingham
B. L. Arms.....Montgomery
S. T. Miller.....Yantley
Oscar Johnson.....Fitzpatrick
James Reid.....Clayton
W. M. Blair.....Gantt
J. R. Penton.....Central
F. P. Boswell.....Montgomery
E. R. Smith.....Andalusia
W. J. Love.....Opelika
L. H. Mayo.....Pine Hill
W. S. Sanders.....Troy
B. F. Thrower.....Enterprise
C. H. Chapman.....Geneva
Jno. A. M. Nolen.....Equality
J. A. R. Chapman.....Kellyton
W. A. Stanley.....Enterprise
A. J. L. Dennis.....Montgomery
F. W. Galloway.....Florala
G. H. Cooper.....Opelika
B. S. Chapman.....Montgomery
W. W. McGehee.....Montgomery
H. B. Wilkinson.....Montgomery
H. S. Persons.....Montgomery
A. H. Montgomery.....Montgomery
J. J. Walls.....Alexander City
J. W. McCall.....Montgomery
Harris P. Dawson.....Montgomery
S. Kirkpatrick.....Selma
M. Y. Dabney.....Birmingham
P. E. Godbold.....Pine Hill
L. D. Parker.....Andalusia
J. H. Blackwell.....Birmingham
Robert B. Beard.....Troy
B. R. Bradford.....Dixon's Mill

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J. W. Fenn.....Eufaula
H. B. Upchurch.....Carrollton
Homer S. Bruce.....Opelika
Wm. G. Thigpen.....Montgomery
E. S. Sledge.....Mobile
Virgil Dark.....Eclectic
Isham Kimball.....Auburn
A. R. Allen.....Fort Mitchell
Ed. T. Glass.....Birmingham
D. J. Long.....Mobile
H. L. Castleman.....Sylacauga
H. W. Jordan.....Red Level
A. W. Ralls.....Gadsden
L. T. Lee.....Coleanor
T. Y. Greet.....Gadsden
J. W. Fleming, Jr.....Lockhart
E. W. Rucker, Jr.....Birmingham
W. B. Harrell.....Thomaston
J. W. Hooper.....Roanoke
H. B. Disharoon.....Roanoke
W. B. Tatum.....Montgomery
O. L. Cramton.....Mobile
F. F. Blair.....Flat Top
L. A. Jenkins.....Birmingham
P. M. Kyser.....Birmingham
T. C. Donald.....Bessemer
H. A. Leyden.....Anniston
W. A. Haggard.....Brooklyn
R. C. Dickinson.....Brundidge
J. F. Bean.....Brundidge
C. P. McEathern.....Banks
James Kenan.....Selma
Monroe A. Maas.....Selma
R. G. Shanks.....Autaugaville
Marcus Skinner.....Selma
W. M. Tankersly.....Hope Hull
J. C. Mason.....Snowdoun
B. S. Carpenter.....Yolande
French H. Craddock.....Sylacauga
W. E. Prescott.....Birmingham
Jno. D. Johnston.....Brundidge

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W. C. Howell.....Dothan
G. M. Taylor.....Prattville
R. B. Hagood.....Lowndesboro
L. V. Stabler.....Greenville
H. A. Donovan.....Patsburg
Frank Shackleford.....Hope Hull
Jesse Gulledge.....Tallassee
W. M. Gamble.....Wetumpka
W. H. Minchiner.....Troy
R. H. Watson.....Georgiana
M. L. Watkins.....Glenwood
W. E. Kay.....Maplesville
A. D. Wallace.....Plantersville
N. E. Sellers.....Anniston
F. W. Young.....Hartford
W. B. Westcott.....Montgomery
G. B. Collier.....Tuskegee
R. H. Coker.....Tallassee
S. E. Jourdan.....Highland Home
C. W. C. Moore.....Talladega Springs
L. H. Ledbetter.....Goodwater
W. B. Crum.....Fort Deposit
Geo. S. Gilder.....Carbon Hill
V. H. Williams.....Jasper
Jno. A. Kendrick.....Greenville
Geo. A. Tranum.....Brantley
J. Hall Jones.....Oak Hill
L. M. Walker.....Burnsville
J. I. Reid.....Montevallo
G. R. Lee.....Arkadelphia
W. P. Magruder.....Tuskegee
C. W. Brasfield.....Linden
James G. Donald.....Pineapple
Wm. S. Johnson.....Notasulga
R. C. Curtis.....Loachapoka
W. A. Parrish.....Midland City
Joe Banks, Jr.....Dadeville
K. B. Goggans.....Hackleburg
L. H. Moore.....Orrville
W. M. Shaw.....Clio
Thos. F. Taylor.....Dothan

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G. H. Moore.....Opelika
J. R. Haigler.....Montgomery
I. D. Wood.....Sylacauga
S. T. Cousins.....Equality
W. W. Perdue.....Mobile
J. M. Anderson.....Montgomery
C. E. Marlette.....Hayneville
W. D. Nettles.....Garland
C. N. Parnell.....Maplesville
J. L. Smith.....Montgomery, R. F. D. 2
W. H. Harrison.....Midway
H. G. Sellers.....Birmingham
J. S. Tillman.....Clio
L. B. Allen.....Alexander City
N. B. Dean.....Alexander City
H. B. Searcy.....Tuscaloosa
D. C. Batson.....Gantt's Quarry
S. B. Bell.....Ozark
A. L. McClendon.....Waverly
M. J. Bancroft.....Mobile
Milton L. Wood.....Montgomery
J. W. Maddox.....Wadsworth
C. S. Strock.....Verbena
Walter A. Weed.....Birmingham
J. W. Hagood.....Evergreen
Ira J. Sellers.....Birmingham
Jesse L. Weldon.....Lanette
C. T. Pollard.....Montgomery
S. D. Suggs.....Montgomery
W. D. Mixson.....Midland City
D. C. Donald.....Birmingham
J. H. Kimbrough.....Lowndesboro
J. M. Lowrey.....Birmingham
F. H. Craddock.....Sylacauga
J. W. Sewell.....Titus
A. D. Cowles.....Ramer
R. L. Milligan.....Montgomery
J. H. Blue.....Montgomery
F. M. Thigpen.....Montgomery
I. C. Bates.....Taylor
P. P. Salter.....Montgomery

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L. B. Farish.....Brewton
Marion Inge.....Mobile
M. D. Thomas.....Opelika
L. R. Boyd.....Troy
Total, 199.

VISITORS.

Dr. J. P. Ellsberry.....Montgomery
Dr. W. G. Young.....Washington, D. C.
Dr. S. L. Reid.....Owensboro, Ky.
Miss Helen Templeton.....Birmingham
Rev. O. P. Spiegel.....Montgomery
Maj. E. R. Schreiner, Surgeon U. S. Army.....Washington, D. C.
C. B. Dyar.....Atlanta, Ga.
R. B. Seay.....New Orleans
W. G. Hanes.....Montgomery
Horton Chamblee.....Birmingham
Edward Day.....Orrville
James L. Bevans.....Major, U. S. Army
Kenneth Wood.....Leslie, Ga.
F. H. Boweth.....Saratoga, N. Y.
Dr. Clarence Hutchinson.....Pensacola, Fla.
Miss Lucile Hart.....Dadeville
J. E. Pearson.....Wetumpka
Dr. Jno. A. Lanford.....New Orleans, La.
R. R. Meriweather.....Macon, Ga.
J. Lee Holloway.....Montgomery
H. C. Wilson.....Montgomery
J. T. Watt.....Auburn
Norman Gunn.....Jasper
Boyd Gilbert.....Goodwater
Dr. J. S. Turbeville.....Century, Fla.
C. C. Watkins.....Pine Apple
Dr. W. F. Whitehead.....Columbus, Ga.
Dr. W. R. Rankin.....Montgomery
Jewett Motley.....Calera
Frank F. Perry, D. D. S.....Montgomery
Dr. Wm. J. Mayo.....Rochester, Minn.
Total, 32.

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SUMMARY.

Life Counsellors	18
Counsellors	64
Delegates	96
Members	199
Visitors	32
Total	409

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THE ROLL OF THE COLLEGE OF COUNSELLORS.

REVISION OF 1917.

THE LIFE COUNSELLORS.

Andrews, Glenn, Montgomery—Selma session..... 1893
Baldwin, Benjamin James, Montgomery—Anniston session..... 1886
Bell, Walter Howard, Brookside—Birmingham session..... 1894
Blake, Wyatt Heflin, Sheffield—Montgomery session..... 1892
Bondurant, Eugene Dubose, Mobile—Birmingham session..... 1894
Brockway, Dudley Samuel, Livingston—Mobile session..... 1882
Cameron, Matthew Bunyan, Eutaw—Selma session..... 1893
Cason, Davis Elmore, Ashville—Huntsville session..... 1880
DeWeese, Thomas Peters, Gamble Mines—Birmingham session 1890
Duggar, Reuben Henry, Gallion—Montgomery session..... 1883
Frazer, Tucker Henderson, Mobile—Mobile session..... 1895
Gaines, Vivian Pendleton, Mobile—Selma session..... 1879
Gay, Samuel Gilbert, Selma—Selma session..... 1893
Goodwin, Joseph Anderson, Jasper—Mobile session..... 1872
Goggans, James Adrian, Alexander City—Birmingham session.. 1883
Harrison, William Groce, Birmingham—Montgomery session.... 1896
Heflin, Wyatt, Birmingham—Selma session..... 1893
Hill, Luther Leonidas, Montgomery—Montgomery session..... 1888
Howle, James Augustus, Eclectic—Mobile session..... 1895
Inge, Harry Tutwiler, Mobile—Greenville session..... 1885
Johnston, Louis William, Tuskegee—Mobile session..... 1895
Jones, Capers Capehart, East Lake—Montgomery session..... 1881
Jones, Julius, Rockford—Montgomery session..... 1896
Moon, William Henry, Goodwater—Selma session..... 1893
McWhorter, George Tighlman, Riverton—Birmingham session.. 1902
Parke, Thomas Duke, Birmingham—Selma session..... 1893
Perry, Henry Gaither, Montgomery—Birmingham session..... 1894
Redden, Robert James, Sulligent—Tuscaloosa session..... 1887
Robinson, Thomas Franklin, Bessemer—Montgomery session..... 1896
Sanders, William Henry, Mobile—Eufaula session..... 1878
Searcy, James Thomas, Tuscaloosa—Selma session..... 1884
Sholl, Edward Henry, Birmingham—Huntsville session..... 1880
Stovall, Andrew McAdams, Jasper—Mobile session..... 1881

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Sutton, Robert Lee, Orrville—Mobile session..... 1895
Waller, George Platt, Montgomery—Montgomery session..... 1896
Watkins, Isaac LaFayette, Montgomery—Selma session..... 1893
Whaley, Lewis, Birmingham—Anniston session..... 1886
Wilkinson, John Edward, Prattville—Montgomery session..... 1892
Williams, John Hartford, Columbiana—Birmingham session..... 1894
Wyman, Benjamin Leon, Birmingham—Selma session..... 1897
Total, 40.

THE SENIOR COUNSELLORS.

Ard, Erastus Byron, Ozark—Montgomery session..... 1900
Baker, James Norment, Montgomery—Montgomery session..... 1905
Bancroft, Joseph Dozier, East Lake—Mobile session..... 1899
Bennett, Benjamin Franklin, Louisville—Birmingham session.. 1898
Betts, William Frank, Evergreen—Mobile session..... 1904
*Blair, Hugh Walter, Sheffield—Mobile session..... 1904
Britt, Walter Stratton, Eufaula—Montgomery session..... 1905
Burdeshaw, Lee Roy, Headland, Mobile session..... 1904
Davie, Mercer Stillwell, Dothan—Mobile session..... 1904
Davis, Jno. D. S., Birmingham—Birmingham session..... 1906
Fleming, Porter Thomas, Enterprise—Selma session..... 1901
Gaston, Joseph Lucius, Montgomery—Mobile session..... 1899
Givhan, Edgar Gilmore, Montevallo—Talladega session..... 1903
Goldthwaite, Robert, Montgomery—Birmingham session..... 1902
Green, Henry, Dothan—Montgomery session..... 1900
Guice, Charles Lee, Gadsden—Mobile session..... 1899
Harlan, Aaron LaFayette, Alexan'r City—Birmingham session 1898
Harper, William Wade, Selma—Birmingham session..... 1902
Harris, Elijah McCullough, Russellville—Mobile session..... 1904
Harris, Seale, Birmingham—Talladega session..... 1903
Hill, Robert Somerville, Montgomery—Birmingham session..... 1898
Jackson, William Richard, Mobile—Birmingham session..... 1906
Justice, Oscar Suttle, Central—Mobile session..... 1899
Justice, Robert Lee, Geneva—Montgomery session..... 1900
Maples, William Caswell, Scottsboro—Montgomery session..... 1900
Morris, Lewis Coleman, Birmingham—Birmingham session..... 1902
McCain, William Jasper, Livingston—Birmingham session..... 1898
McClendon, Joseph Wyley, Dadeville—Birmingham session..... 1902

*Dr. Blair has died since the revision of the roll.

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Palmer, Jessie Gary, Opelika—Mobile session..... 1904
Pride, William Thomas, Madison—Mobile session..... 1899
Ray, Jacob Ussery, Woodstock—Birmingham session..... 1906
Schoolar, Milton Carson, Birmingham—Birmingham session.... 1902
Simms, Benjamin Britt, Talladega—Selma session..... 1901
Steele, Abner Newton, Anniston—Montgomery session..... 1905
Talley, Dyer Findley, Birmingham—Birmingham session..... 1902
Thigpen, Charles Alston, Montgomery—Montgomery session..... 1900
Ward, Edward Burton, Selma—Birmingham session..... 1907
Webb, Francis Asbury, Calvert—Mobile session..... 1904
Welch, Samuel Wallace, Talladega—Mobile session..... 1899
Wilder, William Hinton, Birmingham—Talladega session..... 1903
Wilkinson, David Leonidas, Montevallo—Birmingham session.... 1902

Total, 42.

THE JUNIOR COUNSELLORS.

Austin, James Maxwell, Wetumpka—Mobile session..... 1916
Bowman, Jas. Luther, Union Springs—Montgomery session..... 1914
Brothers, Thos. J., Anniston—Montgomery session..... 1914
Broughton, L. E., Andalusia—Mobile session..... 1916
Cardon, S. G., Center—Mobile session..... 1916
Chenault, C. Sidney, Albany—Mobile session..... 1913
Collins, W. O., Berry—Mobile session..... 1916
Crutcher, John Sims, Athens—Birmingham session..... 1915
Cunningham, Wm. Moody, Corona—Birmingham session..... 1912
Esslinger, Levi Pickett, New Market—Birmingham session..... 1912
Faulk, William M., Tuscaloosa—Mobile session..... 1913
Furniss, John Neilson, Selma—Birmingham session..... 1915
Gaines, William D., Lafayette—Mobile session..... 1913
Gaines, Marion Toulmin, Mobile—Mobile session..... 1913
Gordon, Samuel A., Marion—Mobile session..... 1913
Gresham, George L., Andalusia—Mobile session..... 1913
Hand, Samuel P., Demopolis—Birmingham session..... 1915
Haney, Jas. T., Tuscumbia—Montgomery session..... 1914
Heacock, Joseph Davis, Birmingham—Birmingham session..... 1912
Heflin, Howell T., Birmingham—Montgomery session..... 1914
Hendrick, Walter Branham, Hurtsboro—Birmingham session.... 1915
Hicks, Lamartine Orlando, Jackson—Mobile session..... 1910
Hughes, Robert Lee, Anniston—Birmingham session..... 1915
Horne, Joseph Robert, Luverne—Birmingham session..... 1912

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James, Ashley D., Pennington—Birmingham session..... 1915
Kennedy, John Oscar, Kennedy—Birmingham session..... 1909
Lightfoot, Philip Malcolm, Shorters—Mobile session..... 1916
Lupton, Frank A., Birmingham—Mobile session..... 1913
Malloy, Martin Luther, Eutaw—Montgomery session..... 1908
Mayfield, Surry T., Tuscaloosa—Montgomery session..... 1914
Mohr, Charles A., Mobile—Birmingham session..... 1909
Morris, William E., Georgiana—Mobile session..... 1913
McAdory, Wellington Prude, Birmingham—Montgomery session 1911
McElrath, William Sparge, Cedar Bluff—Montgomery session.... 1908
McLeod, J. C., Bay Minette—Montgomery session..... 1911
McLester, James Somerville, Birmingham—Mobile session..... 1913
McWhorter, Horace Puckett, Collinsville—Birmingham session 1915
Oates, William Henry, Mobile—Mobile session..... 1913
Partlow, William Dempsey, Tuscaloosa—Birmingham session.. 1909
Peterson, Albert Jefferson, Goodwater—Mobile session..... 1910
Pettey, Frank Paul, New Decatur—Birmingham session..... 1909
Poellnitz, Chas. A., Greensboro—Montgomery session..... 1914
Prince, Edward Mortimer, Birmingham—Birmingham session.. 1909
Rogers, Mack, Birmingham—Mobile session..... 1910
Sankey, Howard J., Nauvoo—Montgomery session..... 1914
Stallworth, W. A., Beatrice—Mobile session..... 1916
Stewart, John Pope, Attalla—Montgomery session..... 1908
Smith, Malcolm D., Prattville—Montgomery session..... 1914
Taylor, Joseph Calhoun, Haleyville—Birmingham session..... 1915
Turner, James Perry, Cropwell—Birmingham session..... 1912
Underwood, Nimrod T., Russellville—Montgomery session..... 1914
Ward, Henry Silas, Birmingham—Birmingham session..... 1915
Watkins, James Monroe, Troy—Birmingham session..... 1915
White, Marvin S., Hamilton—Mobile session..... 1913

Total, 54.

COUNSELLORS-ELECT.

Second District.

Phillip V. Speir.....Furman, Wilcox County

Fifth District.

Henry Beauregard Disharoon.....Randolph County
Norman Gilchrist James.....Hayneville, Lowndes County

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Seventh District.

James Cordie Martin.....Cullman, Cullman County

Eighth District.

Frank L. Chenault.....Albany, Morgan County

Total, 5.

SUMMARY.

Life Counsellors		40
Senior Counsellors	42	
Junior Counsellors	54	
Counsellors-Elect	5	101
Total		141

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THE ROLL OF THE COLLEGE OF COUNSELLORS BY CONGRESSIONAL DISTRICTS.

On this roll the names of the Counsellors are given by Congressional Districts. It is intended to serve as a guide in the election of new Counsellors, with a view to the distribution of them in approximate proportion to the number of members in the several districts. It is not considered to be good policy, and it is not considered to be fair and right, to give a few large towns greatly more than their pro rata share of Counsellors. The calculations are based on the nearest whole number. According to the Transactions of 1917, there are 1,739 members in the county medical societies. That would give one Counsellor to every 17.3 members.

FIRST DISTRICT.

County.	*Members.*	*Counsellors.*
Choctaw	15	1
Clarke	26	1
Marengo	17	1
Monroe	19	1
Mobile	64	4
Washington	13	1
Total members	154	9

This district has the number to which it is entitled.

Names of Counsellors—A. D. James, Choctaw; L. O. Hicks, Clarke; S. P. Hand, Marengo; W. R. Jackson, C. A. Mohr, M. T. Gaines and W. H. Oates, Mobile; F. A. Webb, Washington, W. A. Stallworth, Monroe.

SECOND DISTRICT.

County.	*Members.*	*Counsellors.*
Baldwin	14	1
Butler	18	1
Conecuh	16	1
Covington	28	2
Crenshaw	14	1
Escambia	23	0

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Montgomery	69	5
Pike	26	1
Wilcox	32	1
Total	240	13

This district has one less than the number to which it is entitled.

Names of Counsellors—J. C. McLeod, Baldwin; W. E. Morris, Butler; W. F. Betts, Conecuh; G. L. Gresham, Covington; J. R. Horn, Crenshaw; J. N. Baker, R. Goldthwaite, R. S. Hill, J. L. Gaston, C. A. Thigpen, Montgomery; J. M. Watkins, Pike; L. E. Broughton, Covington; Ross Speir, Wilcox.

THIRD DISTRICT.

County.	*Members.*	*Counsellors.*
Barbour	26	2
Bullock	16	1
Coffee	18	1
Dale	14	1
Geneva	34	1
Houston	38	2
Henry	13	1
Lee	19	1
Russell	13	1
Total	191	11

This district has the number to which it is entitled.

Names of Counsellors—B. F. Bennett and W. S. Britt, Barbour; J. L. Bowman, Bullock; P. T. Fleming, Coffee; E. B. Ard, Dale; R. L. Justice, Geneva; M. S. Davie and Henry Green, Houston; L. R. Burdeshaw, Henry; J. G. Palmer, Lee; W. B. Hendrick, Russell.

FOURTH DISTRICT.

County.	*Members.*	*Counsellors.*
Calhoun	37	3
Chilton	15	0
Cleburne	8	0
Dallas	42	3
Shelby	20	1
Talladega	28	2
Total	150	9

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This district has the number to which it is entitled.

Names of Counsellors—T. J. Brothers, R. L. Hughes and A. N. Steele, Calhoun; J. N. Furniss, W. W. Harper and E. B. Ward, Dallas; E. G. Givhan, Shelby; B. B. Simms and S. W. Welch, Talladega.

FIFTH DISTRICT.

County.	*Members.*	*Counsellors.*
Autauga	11	1
Chambers	21	1
Clay	19	0
Coosa	15	0
Elmore	23	2
Lowndes	13	1
Macon	8	1
Randolph	19	1
Tallapoosa	30	3
Total	159	10

This district has one more than the number to which it is entitled.

Names of Counsellors—M. D. Smith, Autauga; W. D. Gaines, Chambers; O. S. Justice, Elmore; A. L. Harlan, J. W. McClendon and A. J. Peterson, Tallapoosa; J. M. Austin, Elmore; P. M. Lightfoot, Macon; H. B. Disharoon, Randolph.

SIXTH DISTRICT.

County.	*Members.*	*Counsellors.*
Bibb	20	1
Greene	10	1
Hale	11	1
Perry	10	1
Sumter	17	1
Tuscaloosa	42	3
Total	110	8

This district has two more than the number to which it is entitled.

Names of Counsellors—J. U. Ray, Bibb; M. L. Malloy, Greene; C. A. Poellnitz, Hale; S. A. Gordon, Perry; W. J. McCain, Sumter; W. M. Faulk, S. F. Mayfield and W. D. Partlow, Tuscaloosa.

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SEVENTH DISTRICT.

County.	*Members.*	*Counsellors.*
Blount	13	0
Cherokee	11	2
Cullman	23	1
DeKalb	22	1
Etowah	35	2
Marshall	28	0
St. Clair	19	1
Total	151	7

This district has one less than the number to which it is entitled.

Names of Counsellors—W. S. McElrath, Cherokee; J. C. Martin, Cullman; H. P. McWhorter, DeKalb; C. L. Guice and J. P. Stewart, Etowah; J. P. Turner, St. Clair; S. G. Cardon, Cherokee.

EIGHTH DISTRICT.

County.	*Members.*	*Counsellors.*
Colbert	14	2
Jackson	21	1
Lauderdale	20	0
Lawrence	11	0
Limestone	12	1
Madison	35	2
Morgan	32	3
Total	145	9

This district has the number to which it is entitled.

Names of Counsellors—*H. W. Blair and J. T. Haney, Colbert; W. C. Maples, Jackson; J. S. Crutcher, Limestone; L. P. Esslinger, I. W. Howard and W. T. Pride, Madison; C. S. Chenault and F. P. Pettey, Morgan.

NINTH DISTRICT.

County.	*Members.*	*Counsellors.*
Jefferson	290	17

This district has the number to which it is entitled.

Names of Counsellors—J. D. Bancroft, J. D. S. Davis, F. A. Lupton, J. D. Heacock, Seale Harris, L. C. Morris, W. P. McAdory,

*Died since roll was revised.

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E. M. Prince, Mack Rogers, M. C. Schoolar, B. L. Wyman, D. F. Talley, W. H. Wilder, J. S. McLester, H. T. Heflin, H. S. Ward and D. L. Wilkinson.

TENTH DISTRICT.

County.	*Members.*	*Counsellors.*
Fayette	12	1
Franklin	25	2
Lamar	15	1
Marion	19	1
Pickens	22	0
Walker	46	2
Winston	10	1
Total	149	8

This district has the number to which it is entitled.

Names of Counsellors—E. M. Harris and N. T. Underwood, Franklin; J. O. Kennedy, Lamar; M. S. White, Marion; W. M. Cunningham and H. J. Sankey, Walker; J. C. Taylor, Winston; W. O. Collins, Fayette.

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OBITUARY RECORD

FROM APRIL 1ST, 1916, TO JUNE 15TH, 1917.

Calhoun—R. L. Bowcock,, Anniston.

Clay—J. T. Manning, Lineville.

Colbert—H. W. Blair, Sheffield.

Crenshaw—W. P. Knight, Luverne.

Cullman—Thos. W. Barclift, Cullman.

Dallas—W. H. Taylor, Central Mills.

DeKalb—H. E. Killian, Collbran.

Elmore—E. H. Robinson, Elmore.

Etowah—G. W. Morgan, Keener.

Hale—R. F. Monette, Greensboro.

Jackson—Geo. T. Hays, Pisgah.

Jefferson—W. M. Avery, Pratt City; Ralph M. Russell, Birmingham; S. W. Acton, Trussville, and H. T. Oliver, Birmingham.

Lauderdale—S. D. Paulk, Cloverdale; C. M. Watson, Florence.

Lawrence—W. J. McMahon, Courtland.

Lee—O. M. Steadham, Auburn.

Lowndes—O. G. Bruner, Fort Deposit.

Madison—Felix Baldridge, Huntsville.

Marengo—A. B. Stone, Linden; G. H. Wilkerson, Demopolis.

Mobile—W. H. Sledge, Mobile; R. H. vonEzdorf, New Orleans; E. S. Feagin, Mobile.

Montgomery—W. F. Sadler, Montgomery; Jas. T. Rushin, Montgomery; A. J. Harris, LaPine.

Randolph—M. D. Miles, Dingler; Wm. Weathers, High Shoals.

Shelby—O. E. Black, Wilsonville; C. W. Williams, Coalmont.

Talladega—R. M. Bailey, Silver Run.

Tuscaloosa—R. H. McGee, Rock Castle.

Total deaths, 35.

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SCHEDULE OF THE ANNUAL SESSIONS AND PRESIDENTS SINCE THE RE-ORGANIZATION IN 1868.

Selma—Albert Gallatin Mabry	1868
Mobile—Albert Gallatin Mabry	1869
Montgomery—Richard Frazer Michel	1870
Mobile—Francis Armstrong Ross	1871
Huntsville—Thomas Childress Osborn	1872
Tuscaloosa—George Ernest Kumpé	1873
Selma—George Augustus Ketchum	1874
Montgomery—Job Sobieski Weatherly	1875
Mobile—John Jefferson Dement	1876
Birmingham—Edward Davies McDaniel	1877
Eufaula—Peter Bryce	1878
Selma—Robert Wickens Gaines	1879
Huntsville—Edmund Pendleton Gaines	1880
Montgomery—William Henry Anderson	1881
Mobile—John Brown Gaston	1882
Birmingham—Clifford Daniel Parke	1883
Selma—Mortimer Harvey Jordan	1884
Greenville—Benjamin Hogan Riggs	1885
Anniston—Francis Marion Peterson	1886
Tuscaloosa—Samuel Dibble Seelye	1887
Montgomery—Edward Henry Sholl	1888
Mobile—Milton Columbus Baldridge	1889
Birmingham—Charles Higgs Franklin	1890
Huntsville—William Henry Sanders	1891
Montgomery—Benjamin James Baldwin	1892
Selma—James Thomas Searcy	1893
Birmingham—Thaddeus Lindley Robertson	1894
Mobile—Richard Matthew Fletcher	1895
Montgomery—William Henry Johnston	1896
Selma—Barckley Wallace Toole	1897
Birmingham—Luther Leonidas Hill	1898
Mobile—Henry Altamont Moody	1899
Montgomery—John Clarke LeGrande	1900
Selma—Russell McWhorter Cunningham	1901

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Birmingham—Edwin Lesley Marechal	1902
Talladega—Glenn Andrews	1903
Mobile—Matthew Bunyan Cameron	1904
Montgomery—Capers Capehart Jones	1905
Birmingham—Eugene DuBose Bondurant	1906
Mobile—Geo. Tighlman McWhorter	1907
Montgomery—Samuel Wallace Welch	1908
Birmingham—Benjamin Leon Wyman	1909
Mobile—Wooten Moore Wilkerson	1910
Montgomery—Wyatt Heflin Blake	1911
Birmingham—Lewis Coleman Morris	1912
Mobile—Harry Tutwiler Inge	1913
Montgomery—Robert S. Hill	1914
Birmingham—B. B. Simms	1915
Mobile—J. N. Baker	1916
Montgomery—Henry Green	1917

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THE ROLL OF OFFICERS.

REVISION OF 1917.

PRESIDENT.

WILLIAM DEMPSY PARTLOW.....Tuscaloosa

VICE-PRESIDENTS.

Senior—WILLIAM C. MAPLES.....Scottsboro
(Term expires 1918.)

Junior—WILLIAM FRANKLIN BETTS.....Evergreen
(Term expires 1919.)

SECRETARY.

HENRY GAITHER PERRY.....Montgomery
(Term expires 1918.)

TREASURER.

JAMES USSERY RAY.....Woodstock
(Term expires 1918.)

THE STATE BOARD OF CENSORS.

ACTING AS A STATE BOARD OF MEDICAL EXAMINERS, AND AS A STATE COMMITTEE OF PUBLIC HEALTH.

WELCH, SAMUEL WALLACE, CHAIRMAN OF THE BOARD, (Official Residence) Montgomery.....1914-1919
SANDERS, WILLIAM HENRY, Montgomery.....1917-1922
WYMAN, BENJAMIN LEON, Birmingham.....1917-1922
TALLEY, DYER F., Birmingham.....1916-1921
JOHNSTON, LOUIS W., Tuskegee.....1916-1921
MOHR, CHARLES A., Mobile.....1915-1920
GAINES, VIVIEN P., Mobile.....1915-1920
WATKINS, ISAAC L., Montgomery.....1914-1919
ANDREWS, GLENN, Montgomery.....1913-1918
GAY, SAMUEL G., Selma.....1913-1918

STATE HEALTH OFFICER.

SAMUEL WALLACE WELCH.....Montgomery
(Term expires 1922.)

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DELEGATES TO THE AMERICAN MEDICAL ASSOCIATION.

WELCH, S. W., Montgomery.....1917-1920
MOODY, EARL F., Dothan.....1916-1918
HILL, LUTHER L., Montgomery.....1916-1918

NEXT PLACE OF MEETING—BIRMINGHAM.

TIME OF MEETING—THIRD TUESDAY IN APRIL, 1918.

COUNCILS.

Council on Nosology.

H. G. Perry, Chairman, Montgomery.....1916-1920
E. M. Mason, Birmingham.....1916-1919
D. L. Wilkinson, Birmingham.....1913-1918
Thos. D. Parke, Birmingham.....1917-1922
M. T. Gaines, Mobile.....1916-1921

Council on Pharmacy.

Hugh Boyd, Chairman, Scottsboro.....1915-1920
J. J. Peterson, Mobile.....1916-1919
C. A. Mohr, Mobile.....1913-1918
L. E. Broughton, Andalusia.....1917-1922
P. O. Chaudron, Dothan.....1916-1921

Council on Scientific Study.

J. S. McLester, Chairman, Birmingham.....1916-1921
T. B. Hubbard, Montgomery.....1915-1920
W. G. Harrison, Birmingham.....1914-1919
L. C. Morris, Birmingham.....1913-1918
W. M. Faulk, Tuscaloosa.....1917-1922

Standing Committee on Tuberculosis.

Glenn Andrews, Chairman, Montgomery.....1913-1918
J. L. Bowman, Secretary, Union Springs.....1915-1920
J. S. Beard, Troy.....1915-1920
C. A. Mohr, Mobile.....1915-1920
W. W. Harper, Selma.....1914-1919

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C. C. Jones, East Lake.....1914-1919
G. T. McWhorter, Riverton.....1914-1919
B. L. Wyman, Birmingham.....1913-1918
S. W. Welch, Talladega.....1913-1918

State Committee on Mental Hygiene.

W. D. Partlow, Chairman, Tuscaloosa.....1915-1920
C. M. Rudolph, Birmingham.....1916-1921
J. T. Searcy, Tuscaloosa.....1915-1919
W. M. Faulk, Tuscaloosa.....1915-1918
E. D. Bondurant, Mobile.....1917-1922

State Committee on First Aid.

W. S. Roundtree, Chairman.....Birmingham
J. N. Baker, Secretary.....Montgomery
W. W. Harper.....Selma
Cunningham Wilson.....Birmingham
Loyd Noland.....Birmingham
F. P. Petty.....Albany

State Committee on Prevention of Blindness.

S. L. Ledbetter, Chairman.....Birmingham
Charles A. Thigpen, Secretary.....Montgomery
W. G. Harrison.....Birmingham
R. A. Wright.....Mobile
Thomas F. Huey.....Anniston
H. B. Searcy.....Tuscaloosa

State Committee on Social and Health Insurance.

Glenn Andrews, Chairman.....Montgomery
S. W. Welch.....Montgomery
L. C. Morris.....Birmingham
W. R. Jackson.....Mobile
J. N. Baker.....Montgomery
H. T. Inge.....Mobile

Correspondents.

Garnett, A. F.....Hot Springs, Ark.
Peavy, Julius F.....Atmore, Ala.
Wyeth, Jno. A.....New York
Coley, Andrew J.....Oklahoma City, Okla.
Gorgas, Wm. C.....Washington, D. C.

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PART II.

Medical and Sanitary Dissertations and Reports.

MESSAGE OF THE PRESIDENT.

HENRY GREEN, M. D., Dothan.

Members of the Medical Association of the State of Alabama:

It is my very pleasant duty and privilege to greet you again and to submit my annual message as President of this distinguished and honorable body.

I feel keenly my inability to maintain the high standard which has been set by my able predecessors, but being a firm believer in "Safety First," I promise, in one respect at least, to give you the best message to which you ever listened. It shall be the shortest.

The year just passed has been a very quiet one in our organization. There has been no State Legislature in session, hence, our system has not been threatened by the law-making powers. No epidemics, save one, have devastated our population. In the southern part of the State malaria has sent many to untimely graves, and has cost us thousands of dollars through disability of our working population. In the section of the State from which I come there have been at least ten times the usual number of malarial cases. This condition of affairs was probably the direct result of the extensive rainfall last July. Every place that would hold water was filled, and became a breeding place for all varieties of mosquitoes. There is little doubt that many infected anopheles have been carried over and that they will get in their destructive work again the coming summer. Every member of this Association should constitute himself a committee of one to teach the people practical facts about the prevention of malaria. In this connection, I wish to renew a recommendation of Ex-President Welch made in

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1908, that at least one paper be presented each year setting forth the nature of the most prevalent diseases in the State, together with suggestions for their prevention and control. I would further recommend that the State Registrar of Births, Deaths and Infectious Diseases be selected for this work.

One of the saddest events of the year has been the enforced retirement of our beloved State Health Officer, Dr. W. H. Sanders. As you are all perhaps aware, continued ill health disqualified him for the arduous duties pertaining to his office. By his retirement the State has lost its most valuable public servant. I wish to commend Dr. Samuel W. Welch, who has been selected by the State Board of Censors as Dr. Sanders' worthy successor, and to bespeak for him your hearty coöperation and active assistance.

While conditions are much better for the preservation of the health and lives of lying-in-women and their babies than they were a decade ago, still infant mortality and morbidity among mothers following confinement is entirely too high.

This, in my humble opinion, is due, in a large measure, to incompetent and untrained midwives and midwifery nurses. While not nearly so many confinements are attended by midwives as was the case ten years ago, still a large percentage of our babies are delivered by midwives. As a rule, these midwives are ignorant, superstitious and filthy, and hence a menace to the life and health of every woman and baby with whom they come in contact. The same may be said of the average midwifery nurse. It seems to me that something might be done to improve the service offered by these women. The highly trained nurse does not solve the problem, except for the comparatively small number of people in affluent circumstances. The price of her services is absolutely prohibitive to the rank and file of the women who are doing most to keep up our birth rate. At the last meeting of this Association a resolution emanating from the Medical Society of Houston county was offered by me, requesting the Board of Censors to prepare a bill and try and secure its passage in the next General Assembly, regulating the practice of midwifery in Alabama. I trust that this resolution will meet with their approval and yours.

Inasmuch as a large percentage of blindness is preventable and inasmuch as a great number of doctors and midwives are

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extremely careless in caring for the eyes of the newborn, I would recommend that a standing committee on the prevention of blindness be constituted by this Association.

Another recommendation made by Dr. Welch in his message deserves our hearty support. I refer to the establishment of an institution or institutions by the state for the care of the weak-minded and degenerate members of our population. With the proper kind of institution this unfortunate class might be taken care of as they should be, and at the same time be made self-supporting.

A matter of extreme importance to our public health system is the selection of our County Health Officers. For many years the custom in most counties has been to give this important office to some member of the Society for any reason other than his fitness for the position. "He is a good fellow, needs it, and let's help him out by giving him this office" was the slogan. The result in most instances, was a health officer who contented himself with drawing the little pay the county commissioners allotted him and sending in such reports as came to him without any effort on his part. Gentlemen, the time has passed for such slip-shod methods. The time has arrived when we must have health officers who are not alone willing to put push and energy into the work, but who are trained in matters relating to public health work. The full time health officer is an urgent necessity. No longer must it be a side line. In order to obtain the services of men of this kind, we must have more money to pay them. We cannot hope nor expect to obtain expert full-time health officers for the wages that have been paid our "side-line" men.' I trust that every member who hears or reads this message will go home resolved to do what he can to get an increased appropriation sufficient to pay a full-time health officer in his county. Until this is done, Alabama must perforce lag behind in the procession. Doctor Baker, in his presidential message last year recommended that the county health officer be selected by the Committee of Public Health and that the Committee of Public Health report its selection to the County Medical Society for final action. In my opinion this was a wise recommendation. It would certainly do away with "log-rolling" to an appreciable extent. Give this committee full power to go out of the county if necessary to secure a suitable man. Of course it is desirable to select a man from

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the county to be served if practicable. I respectfully urge the adoption of the recommendation of our last ex-president.

I desire to make use of this opportunity to call your attention to a matter of vital importance to the profession to which we belong, as well as to the public. I refer to social insurance and its schemes for rendering medical services to the laboring classes as well as to paupers. That some form of health insurance will soon be proposed in Alabama is a foregone conclusion. I shall not attempt to discuss the desirability of such a measure, nor the different methods that are proposed or in force in other states of the Union, but will simply call your attention to some salient facts in regard to the general question. I remark in passing that personally, I am opposed to the principle involved on the ground that it is distinctly paternalistic in its tendency. That there is a demand for state insurance does not speak well for economic conditions. Whether this opinion is correct, does not alter facts. At present, the United States is practically the only nation of first rate importance in which some form of social insurance is not in force. In several states workmen's compensation laws have been passed and are in force, and in all probability some form of health insurance will be added to these at an early date. The American Medical Association has a committee on social insurance, and their findings and reports may be obtained from the secretary of that organization. This committee recommended that similar committees be appointed by the various State Associations. Accordingly I have appointed seven members of our Association a committee on social insurance. I trust that this committee has a report ready for this meeting. The physician should be the most interested as well as the best informed class of men in the country on this very important question. Not only are they personally, vitally interested for their own sake, but should be for the sake of the public. The great mass of doctors seem not to be giving the subject the interest and study they naturally would be expected to give to a question that affects them and the public at large, to the extent that this one does. I most earnestly urge that every member of the Medical Association of the State of Alabama inform himself thoroughly on the question of social insurance, paying especial attention to the various schemes proposed for the care of the sick, the selection of physicians for this service and their remunera-

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tion. The time for evincing this interest and securing this information is right now, before the masses of the people have obtained their opinion from politicians seeking personal profit from some particular proposed scheme. When the agitation begins, the doctor should by mature study and consideration of the various phases of the questions involved, inform himself so well that he will be able to present his opinions with force and conviction to those with whom he comes in contact.

This great republic in which we live, the greatest nation on earth, is today threatened by a foreign foe. The principles of government for which our forefathers bled and died are being assaulted. Long continued peace and prosperity have rendered us somewhat careless and indifferent in the matter of preparedness for national defense. We are in war. How many realize this fact? Never before has such an opportunity presented itself to the present citizens of the United States to show to the world that they are endowed with the same courage, and are actuated by the same noble and patriotic sentiments as actuated our forefathers in 1776 and 1861. There is special opportunity for the medical man. The Army and Navy need 25,000 medical officers. Will Alabama furnish more than her share? I believe so.

I want most heartily to congratulate the Medical Society of Montgomery county for their sanity and poise in dealing with the matter of entertainment for the members of the Medical Association of Alabama, at this session. Their action in eliminating unnecessary and expensive entertainments was timely, and will meet with the approval of every member of this organization.

Now, in conclusion, gentlemen, allow me to again voice my profound thanks for the honor you have bestowed upon me, and for the loyalty and cooperation you have accorded me as your president. I crave your kind indulgence for whatever shortcomings I may exhibit as your presiding officer during this session.

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IMPORTANCE OF SEPTIC INFECTION IN THE THREE PLAGUES.

WILLIAM J. MAYO, M. D., Rochester, Minnesota.

The three plagues are syphilis, tuberculosis and cancer. In each of these sepsis plays a most important part. In the diagnosis of syphilis it is so important a factor that, unless it exists, we may not recognize the process as syphilis. As regards tuberculosis, it is almost an axiom that people die not from the tuberculosis, but rather from the associated sepsis. In cancer sepsis renders many cases inoperable and produces painful and offensive conditions in advanced disease.

The introduction of the microscope marks the beginning of modern medicine and has formed the scientific basis upon which the whole structure has been reared anew. The relation of micro-organisms to disease processes has undergone painstaking study and is still the subject of exhaustive and profitable research. Holmes,[5] many years ago, in a striking paper on bacterial infection, picturesquely divided bacteria into three groups, the saphrophites, the obligates, and the facultative bacteria.

The saphrophites are those which live only on dead tissue, but have great significance in connection with the various ulcerative processes in which sloughing takes place. The toxic material produced by the action of the saphrophites on the dead and dying tissue still connected with the human body has an exceedingly deleterious chemical effect and as a result adds greatly to the virulence of organisms attacking the living tissues.

The obligates, of which the tubercle bacillus is a good example, are obliged to live on living tissue. Obligates are usually slow in their action and do not always produce the death of their host. Where the host is killed it means the death of the microorganism, as its food supply is thereby destroyed.

The facultative bacteria can live on the living or exist as a saphrophite on decayed tissues. This group, comprising the

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most acute and destructive organisms, has no regard for its host, as its food supply is safe.

If there is a yellow peril it lies in the ability of the older races to resist disease. They have developed an immunity to unhygienic conditions greatly in excess of the occidental races and would survive not by reason of intellectual fitness but by acquired resistance to pathogenic organisms. Their unhygienic methods of living, however, expose them to epidemics of disease due to facultative bacteria, such as cholera, which may become a world-wide scourge at any time.

We look on alcoholic drinks as an unmixed evil, and justly so, if there is a safe water supply. If there is not a safe water supply we must not forget that animal life is poisoned by the material resulting from its own existence. The Italians drank wine and lived when infected water would have caused their death, and the Teutonic races drank beer which is at least a sterile drink. The Nomadic tribes continued to live because at frequent intervals they moved away from their filth. Pure water is the great agent of temperance. The consumption of alcoholic beverages in Vienna was reduced 40 per cent per capita after a good water supply was obtained.

It has been a stock joke to speak of "laudable pus" as an example of the ignorance of the fathers in medicine. Today we have a different way of expressing the same idea and say that in the living body under certain conditions an immunity to pyogenic bacteria is developed in the tissues after some days, which attenuates the virulence of the organisms and makes the pus produced relatively sterile and innocuous.

We have slowly learned that it is best to allow phlegmons in certain situations to develop a local immunity and by coagulation necrosis safely work a way for the pus to discharge to the surface. In the olden day this was spoken of as allowing the abscess to become "ripe." Experience has shown that a too early incision may spread the infection and delay instead of hasten the cure.

Staphylococci are always present in the superficial layers of the skin and any surface infection may be complicated by pyogenic infection which may completely mask the original organism.

Among the most interesting and important of the newer researches in bacteriology are those of Rosenow[18] showing that

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one type of bacteria may be transformed into another, and forcing home the great truth that our knowledge of bacteria, of which we have been so justly proud, has been based on form rather than function. Morphology has told us the botanical class, but long ago we found that it did not tell the virulence; that a streptococcus of erysipelas is not distinguishable from that of a superficial and mild infection. Rosenow[18], in his remarkable work, has been able by cultural methods to transform streptococci into pneumococci or a diplococcus indistinguishable from it, and back again into streptococci and to train these organisms at his command, so to speak, to specifically attack a certain anatomical portion of the body and only that portion—one culture being developed to attack only the heart, another only the joints or the muscles, etc.

The colon bacteria in the living body perform a function in the large intestine. On them depends the acidity of the colon, the normal secretions of which are alkaline. Yet this bacteria under certain conditions may become most deadly, being one of the causes of peritonitis. Again, the living body can be enured to its presence, as shown by the results of typhoid vaccination and the acquired resistance to colon infection in fecal fistulas in which nature herself has secured a partial immunity. All known affective bactericides as, for example, carbolic acid and bichlorid of mercury, are more destructive to the host than to the bacteria. The remarkable investigations of Carrel[3] on the sterilization of infected wounds by the use of a weak antiseptic solution have developed a new principle in wound treatment. Vaughan believes that bacteria are not vegetable, but a link between and connecting plant and animal life.

SYPHILIS.

"Unto the second and third generation"—how fitly this old quotation describes syphilis. In this transmission syphilis is quite unlike tuberculosis and cancer, neither of which is hereditary. The discovery of the Spirochaeta pallida and the newer methods of straining are a great weapon of defense against this plague and, aided by the Wassermann reaction, we are for the first time in a position to combat the disease effectively.

The relative position of the spirochaeta among living forms has not been completely settled, but, reasoning from analogy,

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it should be a protozoa. In the earlier day there was no distinction made between microorganisms of the vegetable world (bacteria) and microorganisms of the animal world (protozoa). Of late the protozoa have had most effective study bestowed upon them and our knowledge is recent and accurate. The tremendous importance played by the ameba, plasmodium malariae, hook-worm disease, etc., in the health of the people is now well understood. We have been able to discover a direct poison for all or nearly all of these animal parasites—emetin for ameba, thymol for hook-worm, quinine for the plasmodium of malaria, to say nothing of those larger parasites such as the tape-worm, for which male fern is specific. No such specific remedies exist for the vegetable parasites (bacteria). However, there are certain immunizing processes which develop resistance in the living body and which tend to destroy bacteria. A study of these bacterial conditions has developed the field of serology in which attacks on bacteria and their toxins are made by means of vaccination with immunizing substances. The destructive effect of mercury and salvarsan on the spirochaeta without destroying the host is of the greatest importance in establishing syphilis as a protozoal disease.

It is undoubtedly a fact that within twenty-five years malignant forms of syphilis have not been so common as in former times. Two reasons have been advanced for this; one that the people are gradually becoming syphilized and are developing special immunities by virtue of heredity and acquired protective agencies based on the general theory of the survival of the fittest and, second, that syphilis is much better treated now than it used to be. But how can we account for the high percentage of people with terminal changes in the central nervous system —tabes and paresis? Certainly there is no diminution of these syphilitic manifestations. On the contrary, they appear to be on the increase. Curiously enough, this does not hold true for the pure-blooded negro in whom spirochetal infection of the nervous system,—paresis, tabes, etc.—are extremely rare, while syphilis of the vascular system of the negro resulting in aneuroisms, etc., is greatly increased over the white race.

The typical chancre and the accentuated secondaries are said by Corner[2] to be due not to the spirochaeta alone, but to complicating sepsis. The people of all countries today are far cleaner in this than in former generations, and through im-

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proved hygienic knowledge take far better care of small sores and abrasions than was formerly the custom. The chancre, therefore, will probably be treated with strict cleanliness and often by antiseptic substances, so that it may not assume that typical hardness in the base due largely to sepsis. The failure to develop this characteristic may cause failure in the diagnosis of syphilis. For the same reason the secondary signs and symptoms may be exceedingly mild and therefore the primary and secondary stages of the disease may not be detected. The tendency of the infection is to travel along the nerve sheaths into the central nervous system and the first symptom of syphilis known to the patient may be premonitory of tabes or peresis—a terminal condition for which the resources of our art have only ineffective remedies.

It is a great misfortune that syphilis has been considered a venereal disease and therefore carries a stigma with it. As a matter of fact in a high percentage of cases the source of infection is extragenital; lips, fingers and abrasions at different parts of the body are the means of communication and the failure to elicit a venereal history frequently throws the diagnostician off his guard.

We see a few cases every year of surgeons who have infected a finger with syphilis during operations on syphilitic patients. The chancre often does not develop the typical characteristics because of the care of the surgeon naturally gives to minor abrasions. Moreover, as his personal hygiene is good he may slip through the secondary stage scarcely aware of the nature of the condition. Then come visceral lesions or lesions of the central nervous system. Occasionally, however, exactly the opposite prevails. The surgeon acquires syphilis and virulent septic infection at the same time. In this case the syphilitic infection is masked by the septic involvement which, however, does not prevent the eventual development of constitutional syphilis. The latter remains grafted in the body after the septic manifestations have disappeared. If these accidents happen to the surgeon without being recognized, how much more is the ordinary individual liable to the same misfortune.

The importance of the early diagnosis of chancre cannot be overestimated. Systemic infection does not take place until from 5 to 15 days after the development of a chancre. In the beginning the disease is local and by proper treatment can be

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cured. After a positive Wassermann is obtained the great opportunity has passed. Prolonged treatment may or may not eventuate in a cure, and this brings up the very important consideration that in the chancre the spirochaeta exist and can be readily secured for microscopic examination. *The diagnosis of chancre should be made through the discovery of the spirochaeta, not on the induration of the base.* Every suspicious infection should be subjected to careful bacteriologic investigation as otherwise the patient may suffer irreparable damage.

Hale White[14] gives the following table of the relation of syphilis to the general death rate, showing that even among patients who have been subjected to two years' treatment the death rate by decades is nearly twice as high, to say nothing of the miseries and horrors of a loathsome disease:

Class 1. Syphilis certain, thoroughly treated; 2 years' continuous treatment and 1 year's freedom from symptoms.

	Actual deaths.	Expected deaths.	Ratio
Certain syphilis between 3 and 5 years prior to application	13	9.32	139%
Between 5 and 10 years	34	19.56	174%
More than 10 years	53	24.42	217%

Class 2. Not thoroughly treated or no details given.

Certain syphilis between 2 and 5 years priors to application	44	15.52	284%
Between 5 and 10 years	54	25.52	212%
More than 10 years	76	59.09	129%

Class 3. Doubtful syphilis.

More than 2 years prior to application	67	48.71	138%

It is a curious fact that terminal syphilis in man affects the nervous system more frequently than in women and often pursues a more malignant course. In women, as a satanic recompense, it is the great abortionist or carries dreadful misfortune to her children even unto the second and third generations.

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In the army syphilis has been very largely prevented by the use of a 50 per cent calomel ointment (¼ lanoline and ¾ vaseline or lard), which was first introduced into the French army. It was found experimentally and clinically by Metchnikoff[7] that if applied within five or six hours after inoculation, prevention was absolute. Further by adding to the calomel ointment 3 per cent each of camphor and pure carbolic acid, Neisserian infection as well appears to be prevented.

The septic factor in syphilis is a subject for reflection. In those acquiring the disease accidentally and extra-genitally the chancre will probably not be recognized in the primary stage and the cleaner the person affected the less chance that it will be recognized in the secondary stage, while those venereally affected and dirty have the best chance of prevention of systemic infection, and, if systemic infection does take place in the unclean by reason of the greater virulence of the secondary stage it is more probable that it will be detected early and thus they will secure thorough and adequate treatment.

In abdominal surgery we unexpectedly meet with visceral syphilis, most commonly of the liver or stomach. Most of these cases are diagnosed as cancer. For this reason, when in doubt, a piece of tissue should if possible be secured for microscopic examination. While this may not definitely determine that it is syphilis, it at least will prove that it is not cancer. In the large majority of these cases the Wassermann reaction is present although if the patient has been recently treated it may be absent.

In certain situations in the body spirochetes can secure a habitat which enables them to resist specific medication to a considerable degree. In the cerebrospinal nervous system the lymphatic arrangement is independent of the general lymph system and the spirochetes in this locality are not readily affected through the blood stream. Hence the attempt to reach and destroy them by means of intradural injections. In the glands of the skin, spirochetes are fairly secured against internal medication and may from this sequestered situation reinfect the body. Hence the very great value of the inunction method of mercurial therapy. In the spleen spirochetes may obtain a foothold from which it is difficult to dislodge them and from there reinfect the liver. Syphilitic splenomegalies with hepatic gummata are notoriously difficult to cure. In four cases of

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this description, all with positive Wassermanns and marked anemia and in which repeated salvarsan injection, thorough mercurial and iodid treatment of months duration failed to improve the condition, we removed the greatly enlarged spleen. In three, spirochetes were found in the spleen and in three there were gummas of the liver. The improvement in the condition of these patients was immediate and striking. They were promptly cured.

In regard to treatment: Suspicious sores should be subjected to examination for the spirochaeta and if they are present with a negative Wassermann the disease should be treated as a local condition by the direct application of salvarsan emulsion or calomel ointment and one or two preventive salvarsan injections. Lesions of syphilis may occasionally fail to disappear under salvarsan.

Sometimes the condition becomes constitutional before the disappearance of the primary sore. This must be borne in mind in the treatment of lues as a localized infection. For this reason, a Wassermann should be taken at intervals and the patient watched for signs of constitutional infection. Many instances of the failure of salvarsan to cure syphilis are recorded, with eventual cure by means of mercury, especially mercurial inunction. As a matter of fact, arsenical preparations have at various periods in the world's history been acclaimed *the* cure for syphilis, to be later discarded for mercury.

The value of the Wassermann reaction in diagnosis is very great, but the personal equation is a more prominent factor than in other serologic tests. Blood drawn at the same time and sent to several serologists may lead to different opinions. However, in our experience a strong positive Wassermann made by a competent man is fairly certain. Before subjecting the patient to prolonged treatment, this test should be confirmed by a second and a third examination. Many a man has had his mind poisoned and his life ruined by a too hasty diagnosis and treatment of syphilis. Unfortunately a negative finding has no such value. Syphilis may be present without the Wassermann, especially if the patient has been recently treated.

In certain situations syphilis leads to chronic irritation and cancer, as in the keratosis linguae preceding cancer of the mouth, especially in smokers, and it is well known that tuberculous persons bear syphilis badly, while the syphilitic are prone to tuberculosis.

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Rarely does syphilis imitate cancer, and the supposed frequency of such imitation often leads to prolonged treatment of cancer for syphilis until the patient finally comes to the surgeon in a hopeless condition. The Wassermann reaction renders such dalliance inexcusable.

TUBERCULOSIS.

Those afflicted with tuberculosis usually die from the associated sepsis rather than from the disease. One of the common exceptions to this rule occurs in cases of tuberculous meningitis in which the products of bacterial action are confined in a bony box and produce pressure. The influence of sepsis on tuberclulosis is most pernicious. In preantiseptic times the opening of tuberculous abscesses, so-called cold abscesses, was looked upon with great disfavor and it was well understood that such a procedure would be followed promptly by what was known as hectic, picket-fence temperature and general physical loss. Older writers called attention to the fact that when a cold abscess opened spontaneously it did not give rise to hectic but that hectic always followed an incision. Nature evidently contrived some valvular method of drainage which permitted the escape of contents without admitting pyogenic organisms, a method which the surgeon could not imitate. It is true today that no matter how careful the after-care may be the incision and drainage of such abscesses is practically always followed by septic complications. It is for this reason that cold abscesses were aspirated and after removing as much as possible of their contents the opening was sealed. This is still good practice. In many cases iodoform emulsion or formalin and glycerin was injected with the hope of sterilizing the cavity. Today such abscesses, under strict aseptic precautions, are often opened by a free incision, thoroughly cleared out, and then filled with salt solution or are mopped out with iodoform and glycerin, tincture of iodine, or glycerin and formalin, and sutured completely. These procedures, however, have very little to commend them over the early practice of simple aspiration. Cold abscesses, as a rule, have their origin in bony tuberculous lesions, although they may be seen in other situations, as in connection with the fascia lata.

Modern methods of treatment of tuberculous bones and joints by rest and mechanical support have greatly reduced the

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number of tuberculous abscesses, and aspiration of those which form has reduced very materially the number of cases in which the abscess opens spontaneously. In earlier times cases of tuberculous sinuses were very common and the patients often maintained a fair degree of health for years. One of the most pernicious practices was to probe such a sinus. This probing was almost invariably followed by a septic infection. Fortunately, this practice has become obsolete and such sinuses can now be injected with Beck's paste or Morison's Bipp* so that a radiogram may be taken which will show its ramification far better than by probing, and the injected substances may have a healing effect.

The behavior of tuberculosis in the peritoneal cavity is greatly influenced by the presence of sepsis. Tuberculous peritonitis is secondary to a local lesion, usually in the fallopian tubes or intestinal tract or in the retroperitoneal glands. Pure tuberculous infection of the peritoneum will seldom cause extensive adhesions. This variety is most often seen in connection with tuberculosis of the fallopian tubes. It should not be forgotten that tuberculous peritonitis is a symptom and not a disease; it is in reality a conservative process. The ostia of the fallopian tubes in tuberculosis are usually open, as shown by Murphy.[9] In gonorrhoea, the extremity of the tubes are nearly always closed; hence no extensive peritonitis as a rule will be found. Tuberculous and gonorrhoeal salpingitis practically always involve both tubes while pyogenic infections of the tube are often single. The products of tuberculosis of the mucous membranes of the tubes pass out through the open abdominal ends into the peritoneal cavity. The peritoneum promptly undertakes to remove them, and the resulting reaction with the accumulation of ascetic fluid we speak of as tuberculous peritonitis. It was known for a long time that if the ends of the fallopian tubes were open the tuberculous peritonitis would be of the ascitic form, but if the tubes were closed there would be no tuberculous peritonitis, the material being retained within the tube and forming tuberculous pus tubes, sometimes of huge size and containing typical tuberculous whey-like fluid. The ovaries are not often involved in this process—usually there is only a sur-

*Bipp: Bismuth, 1 ounce; Iodoform, 2 ounces; Petroleum Paste, q. s. The name is formed by the initial letters of Bismuth, Iodoform, and Petroleum Paste.

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face infection similar to that on the intestine and the peritoneum generally. The proper treatment, therefore, is to remove the tuberculous tubes, leave the uterus and ovaries, and close without drainage.

If drainage is used we may have the development of sinuses often followed by mixed infection from some intestinal focus and finally in many instances prolonged suppuration or fecal fistula.

The old idea that tuberculous peritonitis could be cured by drawing off the fluids and that some special influence was created by exposing the peritoneum to air or by pouring in glycerin, iodoform, oxygen, or what not, was based on a misconception. Cure did not often result when the fluid was drawn off with a trochar, but, if an incision was made cure often followed whether or not any other special treatment was applied. This was because when the abdomen was opened the fluid was removed thoroughly and the ends of the fallopian tubes, previously separated from the surrounding parts by reason of the fluid, had an opportunity to become adherent to some neighboring point on the peritoneum so that closed by these adhesions they no longer drained the tuberculous debris into the peritoneal cavity. This tubal retention could often be detected by the gradual development of tuberculous pus tubes after the ascites had disappeared. Such tuberculous pus tubes in the course of time encapsulate and may heal themselves but usually remain a source of grave danger of general systemic tuberculosis.

Tuberculosis of the peritoneum having its origin in the intestine is liable to be a mixed infection from the start and is peculiar in the fact that instead of large quantities of fluid it develops a distended abdomen filled with adhesions. Some of these greatly distended abdomens feel almost wooden and on attempting to open the peritoneal cavity it will be found almost completely obliterated by adherent coils of intestine. This condition has been given many names according to the extent and virulence of the complicating sepsis which varies from the completely adherent type in which there is no free cavity of the peritoneum below the transverse colon and those milder and attenuated types in which free fluid is found with comparatively few adhesions. This very interesting condition was long a puzzle to me but I finally secured three cases in so early a stage that colon and other pus bacteria were found with the

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tubercle bacilli. A little later the septic infection could not have been detected because the colon and other bacteria, having a shorter life than the tubercle bacilli would have been destroyed and in the later stages only the tuberculous condition could be detected, although the adhesive process had been caused by the septic complication.

The effect of sepsis on tuberculosis is well shown in the so-called hypertrophic tuberculosis of the large intestine, especially of the cecum. Here a huge tumor with enormous thickening in the submucosa may give a picture to the naked eye that is almost typical of carcinoma. In some of these cases the abdomen has been opened, the condition inspected and diagnosed as carcinoma and on account of the enlarged glands—the enlargement of which is due usually to sepsis, however, rather than to tuberculosis—the patients have been considered inoperable. They may, however, live for years, supposedly examples of the slow course of carcinoma of the cecum, or, if obstruction supervenes, a colostomy is done. Splendid results follow radical operation in these cases.

In tuberculosis of the kidney the septic infection is responsible for many of the most grave symptoms. In doing a nephrectomy, if there is a mixed infection, the ureter should be drawn up if possible and stitched to the skin, as it is very difficult to sterilize the stump even with the actual cautery or pure carbolic acid, and secondary mixed infection of the kidney space may lead to a long-continued sinus or later result in the necessity of removing the ureter. This will happen more often if the cavity is drained following nephrectomy. Fortunately a large majority of tuberculous kidneys for which nephrectomy must be done are examples of pure tuberculosis without septic complication. Many are supposed to be spontaneously cured because the patients for a long time have had tuberculous debris with tubercle bacilli in the urine, which condition gradually clears up and the symptoms are relieved. The tuberculous kidney has not undergone spontaneous cure; the ureter has become blocked, the kidney has become converted into a closed tuberculous sac in pure culture and is called a "dead kidney," though capable of renewed activity at any time or of causing systemic infection. In these cases the ureter can be injected, if it still has a lumen, with 5 to 10 mm. of 95 per cent carbolic acid, the end of the ureter tied and dropped into the

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wound. The wound should then be filled with salt solution and completely sutured, quite as we would treat the peritoneal cavity or a tuberculous abscess cavity. Even if tuberculous material has soiled the wound, this is safer treatment than to drain. The salt solution is picked up with extreme rapidity quite as if it were given subcutaneously and even a quart or more in this way will be quickly absorbed. The tuberculous material which may be present is absorbed and destroyed while it is in the non-active state. However, if it has an opportunity to culture in the wound and especially if it has the assistance of sepsis in breaking down the tissues such as might be introduced by a drain, this favorable condition would not obtain. It is true that this practice is sometimes followed after some weeks by a sinus but even so the ultimate damage from mixed infection is minimized by the delay.

Vaginal section was at one time very popular for pelvic infections, and justly so for those phlegmons due to ordinary pyogenic organisms, such as occur after puerperium or after abortion. The opening and draining of a pelvic infection from tuberculous tubes by an incision through the vagina causes most serious after affects and often the patient loses her life, not at once, but later through mixed infection, multiple fistulas eventually opening into the bowel and prolonged septicemia.

The influence of septic complications introduced by drainage as shown by these few examples is quite parallel to the knowledge of the ancients in regard to the treatment of cold abscess in that in both instances the pernicious effect of drainage in permitting a mixed infection of tuberculous lesions is evident.

In 1899 I published an article on "Localized Tuberculosis of the Intestine."[6] At that time it was not believed that primary localized tuberculosis limited to any portion of the intestinal tract ever occurred and that it was always the result of human tuberculosis, usually from swallowed tuberculous sputum. I stated at that time that in my opinion bovine tubercle bacilli in milk was responsible for many of these infections. I called attention to the fact that in the country districts pulmonary tuberculosis was comparatively rare but that localized tuberculosis—in bones, joints, intestines and glands—was exceedingly common, that it was customary to use raw milk as a regular article of diet and that a considerable percentage of milk cows were infected with tuberculosis.

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There is a regretable tendency at the present time to make a diagnosis of tuberculosis on insufficient evidence and we are constantly meeting with neurasthenic patients who have spent months in tuberculosis sanitariums for supposed tuberculosis who give no adequate history of tuberculosis and have no x-ray or other evidences of the disease, the diagnosis having been made from a rise of evening temperature of a degree or so. The neurasthenic person may have a slight raise of evening temperature by the month or year from 99 to even as high as 100 or 100.5. This temperature with the anemia and diminished respiratory action has been too easily accepted as evidence of tuberculosis.

It has long been noted that the tuberculous patient had more than an average immunity to cancer—Murphy[10] showed that this is due to the accompanying leucocytosis and advised measures to produce leucocytosis as an aid to the cure of cancer.

CANCER.

Much of the cachexia of cancer is due to associated sepsis and the pain in the large majority of cases comes from septic infection. However, in the later stages and especially where there are metastatic deposits, nerve-pressure may be the cause of very severe pain, as in "paraplegia dolorosa." But the rule holds good that in the primary growth the action of saphrophites on the necrosing tumor and the pyogenic infection of the surrounding tissue already sadly crippled by the malignant change are the causes of the greatest distress and hasten the death of the patient. In internal situations, such as in the liver, where the growth is not exposed to infection, the tumor will often reach very large proportions and the patient will die without severe suffering. Pierce Gould[4] found that in the Hopeless Cancer Division of the Middlesex Hospital, London, careful attention to cleanliness and antiseptic measures gave so much relief that morphia was seldom required; even further, that not only were the patients relieved of their pain, but the symptoms were so greatly ameliorated that they gained in strength and flesh.

The mortality following operations for cancer is to a great extent influenced by the amount of sepsis present and especially by the character and virulence of the invading bacteria. By reason of the virulent streptococci present in its sloughing re-

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cesses, cancer of the cervix uteri gives a high mortality following radical operation. Without question the relief given by the various methods of applying heat in cancer of the uterus is due not only to the destruction of the growth itself but also to the destruction of the bacteria present.

The fatality which has marked operations for cancer of the large bowel and rectum is largely due to pathogenic bacterial infection, especially streptococci, and the most frequent cause of death following operation is sepsis.† It was the fatality of immediate resection of such growths especially beyond the splenic flexure, which lead to the two-stage operation of Mikulicz,[6], Bruns[8] and Paul[11], in which the diseased portion of the large bowel is lifted from its bed with the fat and glands, brought outside the body, and left in this position until it heals in. It can then be cut away and after the parts have been restored to a reasonable degree of cleanliness the continuity of the intestine is brought about by an operation largely extraperitoneal. In this way the mortality has been reduced more than one-half. In the rectum the same result is obtained indirectly by first doing a colostomy and subsequently carefully cleansing the lower fragment for some days before doing the radical operation. This again reduces the mortality by one-half. Thus an apparently inoperable growth in the rectum, fixed and adherent, will often be so benefited two weeks following a colostomy as to become operable.

There is a type of cancer which is often called inflammatory —a hard, indurated cancerous ulcer, foul, and covered more or less with sloughing material, with an extensive inflammatory zone, brawny and red. If operation is attempted in this condition the patient is seldom cured of the disease. Metastasis often quickly takes place and the lymphatics of the skin in the vicinity become loaded with cancerous material from the cut surface. However, if such a condition is treated by coagulation with the actual cautery as advised by Percy,[12] the parts will become clean and healthy, the bacteria and cancer both having been destroyed; then when the induration and inflammatory zone have completely disappeared the entire area can be removed with plastic repair of the defect. In this way a cure can be effected in cases which would otherwise be hopeless.

We may say that cancer is malignant in proportion to the ratio of cells to the stroma, the cells representing the cancer,

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the stroma the resistance of the patient. Many patients have comparatively little resistance to the cancerous cell, but react vigorously to a burn, throwing out an enormous amount of connective issue which may strangle the few cancer cells that have not been destroyed by the cautery itself.

Heretofore we have not given sufficient attention to the septic complications of cancer, especially in their relation to preparing the field for operation, and it is probable that some of the success of the use of radium and the X-ray both as a palliation and as a preparation for later surgical procedure has been due to the fact that they relieve the associated sepsis.

In conclusion let me again say that sepsis is secondary only to the original lesion in the destructive effects of syphilis, tuberculosis and cancer.

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THE HUMANITARIAN ASPECT OF SCIENTIFIC MEDICINE.

Evening Address Before The Medical Association of Alabama, Montgomery, Wednesday, April 18th, 1917.

M. S. DAVIE, M. D., Dothan.

According to any genuine test of efficiency, any institution, organization, or profession justifies its existence exactly in ratio to its willingness and ability to render service to humanity. No man or combination of men has any right to sustenance or recognition on any other basis than this.

Since all men and combinations of men are trustees to the public for allegiance to certain assumed and delegated principles, it is right and proper that an account of this stewardship be rendered from time to time.

This evening being set apart for the discussion of things of interest to the general public, and not purely scientific, it becomes a fit occasion to briefly inventory some of the things which the profession has accomplished, and to present some of the men who have accomplished them.

In a roll call of this kind and in the time at my disposal, there is no room for the cataloguing of embellishments. The wealth and possessions of organized medicine, the intellectuality and extraneous accomplishments of its individual members, and other collateral thoughts, are of much interest, but not obligatory to the issue, The Humanitarian Aspect of Scientific Medicine.

It is fair to say, prefatorily, that the type of physician represented here this evening, is the only one who has ever rendered service to humanity. The various sprouts and offshoots, claiming to heal the sick, and cure disease, are, when they use the truth, which is seldom, handling stolen thunder; thunder stolen from the type of physician belonging to this organization.

In this day of so-called commercialism, it is rather frequent to estimate things from a material standpoint. In submitting

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any proposition for consideration, the query, Does it pay? is likely to arise. While I choose to hold to the higher value of intangible things, and suggest the commercial estimate as not entitled to first thought, yet, it is axiomatic that a country's health is its greatest asset, and on this basis, it is conservative to say, the profession of medicine and surgery, as conducted today, is the one profession necessitous to civilization.

Any student of history will recall the plagues and pestilences which have scourged humanity in former centuries. How cities, countries, nations, have been decimated by the riotous and unrestricted activities of the Grim Reaper. As late as 1796 small pox made frequent visits to the courts of Europe, attacking the very flower and beauty of royalty, with an appalling mortality, leaving its survivors so hideously disfigured that they were repulsive to their associates and a perpetual sorrow to themselves.

In the latter part of the eighteenth century, the son of a Gloucestershire clergyman, Edward Jenner by name, and a friend and pupil of John Hunter's, had a conversation with a dairy maid which set him to thinking. From her he learned that milkmaids who contracted cowpox from milking their cows, were immune to smallpox. Jenner communicated this information to Hunter, asking his opinion, and received the sage reply, "Don't think, try; be patient, be accurate." So he set about collecting observations in 1778, and on May 14, 1796, "performed his first vaccination upon a country boy, James Phipps, using material from the arm of the milkmaid, Sarah Nelms, who had contracted cowpox in the usual way. The experiment was then put to the test, by inoculating Phipps with smallpox virus on July 1st, and the immunization proved successful." "In 1802 and 1807 Parliament voted grants amounting to twenty thousand pounds to Jenner in aid of prosecuting his experiments." Though he was attacked with great bitterness by some of his contemporaries, who, it has been said, "acted upon the parliamentary principle that the duty of the opposition is to oppose."

The perusal of pre-antiseptic surgery reveals one long nightmare of agony and disaster. Hardly any truly surgical condition, of today's parlance, but what was safer than the procedure to correct it. No amount of operative skill or anatomical knowledge could render abdominal surgery anything but a

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proposition of deadly peril. Woman, with her frequent pelvic disorders, had to suffer, or take chances practically prohibitive. The accident and injury details of today's industrialism would have entailed a septic death rate so immense as to make economic progress an impossibility.

This was the condition of things when Joseph Lister had his attention drawn to Pasteur's investigations of fermentation and putrefaction. Lister is "the last and greatest of the interesting line of English Quaker physicians." William Sharkey and Thomas Graham, two canny Scots, and teachers of Lister, advised him to go up to Edinburgh and take up surgery under the great Syme. He followed their advice and in 1854 became Syme's assistant and subsequently his son-in-law. He was early impressed with the stupendous mortality of septicemia, pyemia, erysipelas, tetanus, and hospital gangrene, and in his statistical compilations of 1864-66 he showed the death-rate from amputation to be 45 per cent. These were the days of "laudable pus," yet Lister's heart turned to a Hippocratic healing by first intention as the surgeon's ideal, and he was consumed with an ambition to make this the normal outcome of surgical procedure.

Believing all wounds should be rendered militantly antiseptic, and realizing Pasteur's heat sterilization an impossibility here, he conceived the idea of introducing chemical antiseptics into wounds. After trying out chloride of zinc and the sulphites, he chanced upon carbolic acid, and, "on August 12, 1865, he employed it in a case of compound fracture with complete success." Two years later he recited two year's work in two papers, the second one entitled "On the Antiseptic Principle in the Practice of Surgery." As usual, a storm of criticism was heaped upon his methods, and among his assailants was no less a light than Lawson Tait, the distinguished Birmingham gynecologist.

Not only was surgery in the pre-antiseptic days unspeakably disastrous in its frightful mortality, but the physical torture of surgical manipulation prior to general anesthesia was equivalent to the direst atrocities of the Spanish Inquisition, or the torture chamber performances of any country or age. In March, 1842, Dr. Crawford Williamson Long, of Danielsville, Georgia, "removed a small cystic tumor from the back of the neck of a patient" under sulphuric ether, and, on October 16,

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1846, at the Massachusetts General Hospital, Boston, Mass., Dr. John Collins Warren removed a "congenital but superficial vascular tumor, just below the jaw, on the left side of the neck," under sulphuric ether, administered by a dentist, Dr. William Thomas Green Morton, of Charlton, Mass.

So, with the use of ether from 1844, and the knowledge of antisepsis from 1865, surgery goes forward with a progress which reads like an Oriental romance, until today, the formerly impossible has become so possible that it is being done as a matter of routine by men in all the villages of the world. In fact, it has been recently observed by a distinguished author, that the genius for method and system as used by the brothers, Charles Horace and William James Mayo, "has made Listerian surgery almost as reliable a science as bookkeeping."

Prior to 1900 the mortality from typhoid fever in any military encampment was frequently greater than the deaths from shot and shell. Then it occurred to the Sir Almroth E. Wright to make a suspension of dead typhoid organisms and inoculate people against this disease, and the suffering and economic loss incident to this infection were wiped out. That is, so far as our ability to control the disease is concerned.

Dante's Inferno was an exquisite poet's dream compared to the suspense of the hydrophobia victim before Pasteur, in July, 1885, inoculated the Alsatian boy, Joseph Meister, with an attenuated virus and thereby protecting him from developing this unspeakable disease, though this boy had been "bitten all over by a rabid dog."

Think of the infinite pitiableness of the mother who had to stand by and see her child die, struggling with sibilant gasps, in the death-throes of laryngeal diphtheria before 1890, when Emil von Behring, a Prussian army surgeon, "demonstrated that the serum of animals immunized against attenuated diphtheria toxins can be used as a preventive or therapeutic inoculation against diphtheria in other animals, through a specific neutralization of the toxin of the disease."

And, what a holocaust was our fourth of July celebration before the discovery of tetanus antitoxin.

The literature of no profession, nor the chronicles of no age contain examples of more superlative patriotism or unswerving devotion to duty than the conduct of Dr. James Carroll, of the United States Army Yellow Fever Commission, in working

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out the mosquito theory of yellow fever. "In 1900, when an army medical commission was appointed to investigate the cause and mode of transmission of yellow fever among the American troops stationed at Havana, Carroll was appointed second in command." Dr. Walter Reed was chairman of this commission, his associates being Drs. James Carroll, J. W. Lazear, and a Cuban immune physician, Aristides Argramonte. Dr. Reed has technical credit for discovering the mosquito as the intermediate host, and the agent in transmission of yellow fever, but soon after this commission took up its work, the question of experimenting upon human beings arose. Whereupon Dr. Carroll immediately volunteered to be the subject of this human experiment. He was bitten by several mosquitoes infected from yellow fever patients. Three days later he developed a virulent type of the disease, and barely escaped with his life. In the beginning of his illness Dr. Carroll told the nurse how he acquired the disease, and upon his recovery, in looking over her notes, he found this statement, "Says he got his illness from the bite of a mosquito—delirious." During the height of his illness he developed an acute cardiac dilatation, from which he never recovered, dying from an organic heart lesion 7 years later, September 16, 1907. No man can show greater love for his profession, or greater love for his fellow-man, than to sacrifice his life to further the ends of science and remove suffering and premature death from future generations.

And so the roll call might go on indefinitely, much beyond the limits of our time and patience. I merely wanted to bring to your minds the altogether correct idea that the profession of medicine and surgery of yesterday, today, and tomorrow, is, from an economic and humanitarian standpoint, the best investment in any country today. The practice of medicine and surgery is necessitous to civilization; without it there could be no progress. It naturally follows that whatever gives furtherance, both in finance and understanding, to this profession, has best served the interests of the race.

What we most need right now is education for the people.

It is right and proper that every organization have rules and regulations for governing the deportment of its members. There is hardly a problem which may confront a physician today, which did not confront, in approximately the same way,

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some physician last year, or, at least, the principle involved has been into court many times before, and has been intelligently decided for future guidance.

So a set of rules has been worked out by our profession to determine the conduct of its members, and which is known as our Code of Ethics. The why and wherefore of these rules is not always obvious to the laity, and some of them are thought quite peculiar.

Ethics is merely "the science of right conduct and character," or the choosing of the right in contradistinction to the wrong. The differentiation of right and wrong is not always a question of intelligence or morals—it is quite often a matter of these things—plus information. The public should be frankly informed about our Code of Ethics.

The laity has learned that reputable physicians do not advertise. There are many wise and wholesome reasons for this, as all informed and thoughtful members of our profession know.

While this rule should be jealously and zealously guarded, for the welfare of our profession, and much more for the welfare of the public, yet it should be so distorted as to suppress the beneficent accomplishments and resources of our profession as such.

On the contrary, every avenue of publicity, and every resource and ingenuity for using the same, should be employed for enlightening the public as to what humanity may receive and should demand from our profession.

Once the general public becomes thoroughly enlightened on these matters, the ignorant members of our profession will be subdued and the standard everywhere raised.

The education of the public is one of the most urgent duties before our profession today. The opposition to needed health legislation and the support given to quacks and unscientific sects and cults is largely due to ignorance of the enormous advance in scientific medical knowledge in the last forty years.

We need to put some elementary pedagogics into this matter. Let us assume, for it is an assumption of fact, the public knows very little about the real status of scientific medicine of today. What it needs is to be told facts and shown how modern scientific medicine differs from the empirical knowledge of previous generations and how this increased and more certain knowledge has come about. It needs to be shown

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that at the bottom of our present knowledge of medicine lie bacteriology, pathology and chemistry; that these sciences are just as positive as are electricity or civil engineering, and that the modern scientific physician is just as positive and has just as good reason for being positive in his methods and conclusions as the electrical engineer or the man who builds a bridge or digs a tunnel. Let us quit scolding and go to teaching the public. We have the knowledge. Let us use the philosophic calm which belongs to greater knowledge.

When this educational foundation has been laid, and the public understands that the scientific medical profession is perfectly sincere in its efforts to prevent disease, it will be ready to give its much needed coöperation and almost anything may be accomplished.

Not only do I recommend a press bureau for enlightening the public as to what our profession has to offer to mankind, but I further submit that we should inform the general public as to the pathologic possibilities of many so-called trivial conditions.

For example, the public should be told that the micro-organism which produces tonsilitis is the one which frequently causes endocarditis, arthritis and nephritis, further developing to it the criminality of allowing children to have diseased tonsils.

The public should know it has no right to decree that this or that is trivial, and, therefore, any physician or method may do for the same. It should know that only the best talent in our profession is good enough for any condition which may arise.

Now I have outlined briefly some of the most important things the medical profession has accomplished in preceding generations, and I wish to show even more briefly a few of humanity's needs which constitutes the physician's responsibility today.

"In the United States an average of 685 babies die every day, or 250,000 a year. The coffins for babies who die annually in this country, if placed side by side, would make a solid row 95 miles long.

In the United States there are 630,000 preventable deaths a year, or 1,726 every 24 hours, or twelve Titanics a week.

There are 2,900,000 persons constantly sick in this country. This is a loss annually to the nation of over $3,000,000,000, enough to build seven Panama Canals a year.

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Tuberculosis alone costs more than the expense of the entire Federal Government. At the present rate at last 5,000,000 of the people now living in the United States will die of tuberculosis.

Typhoid fever costs the nation $350,000,000 annually.

There are 3,000,000 cases of sickness from malaria every year in the United States, causing a loss of $160,000,000.

Of the 892,000 persons of all ages taken at random in the United States and examined for hookworm, 34 per cent were suffering from this disease. It is estimated that South Carolina alone suffers a loss annually of $35,000,000 from the lowered vitality of her workers caused by hookworm.

At least 190,000 persons in the United States are constantly ill from syphilis, while 30 per cent of the insanity of this country is due to this disease.

There are over 275,000 idiots, imbeciles and moron in the United States.

For every nine millions of white people in the United States there are 160,000 deaths annually, while for nine millions of negroes there are 266,000 deaths. The loss to the United States from preventable sickness and death of negroes is over $700,000,000 a year."

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MEDICAL PREPAREDNESS.

MAJOR JAMES L. BEVANS, Surgeon U. S. Army.

Mr. Chairman, Ladies and Gentlemen: Those of you who know something or have studied the psychology of the crowd know that mobs go by a direct route toward the accomplishment of a very definite objective. Armies are a little like mobs in that they recognize only the laws of force. Nations at war also demonstrate a little bit of this same seeking after a definite objective, except that instead of showing it as mobs show it, they show it in the form of coöperation and patriotism which is not seen in these bodies.

Our own nation now is at war, and I think you all have noticed the increased spirit of coöperation and patriotism on account of the fact that war exists. Although I am a complete stranger in Alabama and in Montgomery, I have observed marked signs of a fine spirit here, a spirit of patriotism such as we see in the nation, a spirit of coöperation. You have an unusually fine spirited body of troops. The medical examiners who have been working many of them have noted that there are less claims for disability, for instance, and they are not seeking unworthy means of discharge. Some one has said that they have shown a marked improvement in their physical condition as a result of six months on the border. This fact alone proves that they have coöperated in the efforts at disciplining and training them. I never have seen among audiences such manifestations of patriotism as I have seen here on the playing of the National Anthem. Over and over again it has been observed.

The statistics also show that Alabama is the first State in the number of its volunteers. Many communities are boasting just now of the large increase in membership for the Red Cross. I noticed in the paper the other day that Bridgeport, Conn., for instance, claims to have added twenty thousand members in ten days, fourteen per cent. of its population. Ridgewood, N. J., says that they have added two thousand

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members in two weeks. Montgomery has not yet obtained its charter for a chapter of the Red Cross, nor has it started its campaign of work, but the other night they obtained 275 members in ten minutes, which I believe is the record. (Applause.)

The doctors also have been interested in the work, and for the last month have been attending nearly every night classes of instruction in military medicine, and the increasing audiences and the large enthusiasm manifested I think shows among the doctors the same spirit which animates the general population.

I conclude therefore that the spirit to serve is present in Montgomery and in Alabama, and what you really want to know is how and when and where to serve, in some little detail.

Long ago armies had no means of relief whatsoever for the wounded. Frequently the inhabitants cared for some of those who fell, the fighting force itself was depleted by the fact that men had to care for comrades who were struck, and many others died mostly as a result of lack of attendance. The kindly people of that time gave a great deal of attention to the subject of relief to the wounded. Two hundred conferences and conventions were held in the four centuries before the date of the Geneva Convention to consider means of ameliorating the conditions of the wounded, but they came to nothing because there was no international law to enforce their recommendations. The kings and generals of that day regarded the wounded as a part of the inevitable consequences of war. It was not until the time of the Napoleonic wars that Barons, Larrie and Percy finally gave the world a definite medical department for the French and German armies. During our own Revolution, in the days of Washington, the relief to the wounded was by means of regimental organizations and was imperfect and fragmentary because it was not organized for the army as a whole instead of by regiments.

In 1863 Lauterman in a series of circulars announced a plan which he afterwards was allowed to put into force for carrying for and transporting the wounded for entire armies. His plan is the basic plan followed by all the armies of the world today, all of them following the original plans of this American surgeon.

It was in 1863 that the nations of the world met at Geneva, Switzerland, at what is called the Geneva Convention, to study

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this very question, and they made definite recommendations which nearly all of the nations of the world have now become adherents to. One interesting exception is in the case of Turkey. Not being a Christian nation, Turkey refused to accept the emblem, which is a red cross, but in every way they have become adherents to the convention, and have as their sign in place of our red cross, the crescent. It was in compliment to Switzerland that the national banner of that country with reversed colors was taken as the flag of the Red Cross.

Among other important recommendations was the one to establish in each nation a committee or society called the Red Cross Society or Committee, and it was announced at that time, and it has always been true since, that the chief object of that society is to serve as a channel of communication between the people and the army. In our own country there is a well established, powerful National Red Cross Society. The army of the United States has a well organized medical department. You in Alabama should take especial pride and interest in the medical department of the army, because of its distinguished chief, who is a native of this State, our Surgeon-General Gorgas.

Now, to get down to details, the medical department of the regular army consists at all times, in peace and war, of several branches. The first one is called the medical corps, which is made up of the surgeons who serve in the regular army. Back of that and to piece it out, is the medical reserve corps. Then there is the medical corps of the militia, and that of the additional army which is now being thrashed out by Congress, and which we all hope will be formed by selective conscription and not by volunteers. (Applause.) In addition to these, there is the dental corps, the name of which explains itself; the hospital corps, made up of the enlisted men who go as orderlies, nurses, attendants, drivers and laborers; and the nursing corps, made up of trained female nurses.

Entirely distinct from the medical department of the army and navy comes the Red Cross Society, which supplements it and helps it with funds, personnel and material when such things are needed.

Under very special circumstances also it is provided that the army may accept the volunteer aid of individuals. Outside of this one exception, the Red Cross is the only organization which is allowed to offer aid to the army.

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Every resource of the country must be mobilized in war, and medical resources are prominent among them. Someone has said within the last day or so that for every soldier on the battle line there must be five stay-at-homes engaged in furnishing him with pay and food and clothing and medical essentials and the other necessities of his life. Such a development of all the resources of a country means organization, and although the question of the organization of the resources of the country was mentioned quite fully this morning, I want briefly to go over it again.

First, as a result of the action of several medical societies representing fully ninety thousand of the physicians of the United States, the American Committee of Physicians for Medical Preparedness was formed. Next, and entirely independent, the Council of National Defense came into existence. Later the Council of National Defense named an Advisory Commission. The Council of National Defense consists of certain cabinet officers, and is semi-official. The Advisory Commission is made up of many sections, about as follows: One on medicine; one on labor; transportation and communications; science and research, which deals chiefly with engineering; raw materials, minerals and metals; munitions and supplies, including food and clothing. You have noticed every day extensive articles with reference to these various sections of the Advisory Commission. For instance, one which attracted attention the other day was the naming of Mr. Hoover, who has so distinguished himself in Belgium, as director of the subsection dealing with foods.

The medical section of the Advisory Commission has been so overwhelmed with work recently that it is just now naming a general medical board, which is subsidiary to it. So if you get the sequence of events, you have got a general medical board acting under the Advisory Commission of the National Defense Council; it is a little bit complicated and may get more so, but they have an enormous work to do.

The original Committee of American Physicians had named state and county committees, and they are now acting under the direction of the National Council of Defense. They are helping the Government to get ready, and they know, for instance, that if the regular army of today was brought up to war strength, as it probably will be within the next ten days

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or two weeks, that a thousand physicians for the regular army will immediately be necessary. They also know that if the President calls for as many as five hundred thousand men that thirty-five hundred additional physicians will be needed, and that if he calls for two million men, from twelve to fourteen thousand more will be necessary. This represents ten per cent. of all the physicians of the country, but a much larger percentage of those who from age and physical condition are available for field service of the rough sort which war brings about.

The shortage in the regular army the War Department hopes it will fill from the graduates of 1912, 1913, 1914, 1915 and 1916. The army requires one year's internship. The navy I am told has waived this, and therefore, probably will accept, a little later, graduates from 1917. The qualifications for surgeons for the regular service are that they shall be American citizens, graduates of a reputable medical college, persons of good moral character and correct habits, and that they shall be under thirty-two years of age. They pass a written examination and a physical examination before a board and at the nearest army post or convenient place to which they are sent, and if they are successful, go to a post-graduate course at the Army Medical School, lasting nine months, and at the end of that time they have another written and oral examination, and if they pass are then taken into the regular army.

For the information of those who are interested, the position of surgeon in the regular army is a life position, and at sixty-four such persons are retired on three-quarters pay.

The course at the Army Medical School is a matter of interest to medical men in that it now represents one of the best laboratory courses in the country.

Outside of the regular corps there is the reserve corps, which will be enormous in case of active war, and from it will be drawn the proper personnel required by the regular army, the additional army and all the other branches. Just now they are taking candidates for the reserve corps between the ages of twenty-two and forty-five. They are in the ranks of lieutenant, captain and major. Information with reference to the reserve corps may be obtained by writing a letter asking for it, addressed to the Surgeon-General of the Army, Washington, D. C. The qualifications are exactly those for the

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regular corps, except that the examination is an oral one of less severe nature and lasting a much shorter time. The commissions in the reserve corps formerly could be accepted without the necessity of active service following, but now if one accepts a commission in the reserve corps he may be compelled to serve when called upon. Therefore, it is a question of some seriousness to accept such a commission.

I think that it will not be at all difficult to get all of the physicians needed by all the different branches of the service if there can simply be a spreading of the word among the doctors that they are wanted. But those who are going in should certainly be prepared for the life which is coming to them. It needs special reading and special instruction, following perhaps one of many plans, but in every town in the State classes should be going at this very moment, as they are in Montgomery, preparing those doctors who care to enter the life. In Albany they have followed a special plan, which may be obtained by any one interested by addressing the Clinical Club of Albany, N. Y.

One of the functions of the medical section of the Advisory Commission is to keep us Americans from making some of the mistakes which the British army made at the beginning of the war three years ago. For instance, the British allowed members of medical faculties to go immediately to war, and they encouraged undergraduates to take the same course. They broke up the schools of medicine, in other words, and when the much greater demands of later years came the flow of graduates had ceased. We are planning through the Advisory Commission to keep the faculties of the medical schools together and to advise the young men to graduate and then go in full-fledged physicians. In Italy, taking advantage of the mistake of the British army, they are receiving wounded for treatment in hospitals attached to medical colleges, so that the undergraduates are both serving their country and getting special schooling in the care of gunshot wounds. They are then graduated direct into the army.

Now in addition to the places open for the doctors, there is the nursing corps and the hospital corps, both of which have reserve corps similar to the relationship between the reserve corps and the medical corps. The army takes nurses only after examination, both physical and mental. She signs a

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contract pledging her to serve a number of years. Those who join the reserve corps come in under the temporary contract, simply agreeing to serve if called upon.

The demand for hospital corps men is very great. Recently the Advisory Commission has asked that every physician interest himself in getting some young man of proper physical characteristics and age to go into the hospital corps. Druggists are much needed. Motor ambulance drivers are needed, men who know anything at all about hospital service and first aid are needed. They should be sent for further information to the nearest recruiting station, and if they ask for the doctor at the recruiting station they will get the information that they want.

Now, for those who cannot serve at all in the organized military forces there are plenty of opportunities. The Red Cross is the chartered official society offering many openings for all sorts of people, men and women. It is well adapted for both military and civilian relief. Those interested in the humanitarian side of the question of relief to the wounded as distinguished from the purely mercenary military side, will find useful work with the Red Cross. They should apply for literature giving all of the different openings and plans, to the Secretary of the Red Cross at Washington, D. C. There is work to be done both at the front and in home territory and at the place of the person's own residence. The Red Cross is glad to receive subscriptions, large or small, and will receive them for general purposes or for specific purposes, if the subscriber so desires. If you can do nothing else, either in the way of personal service or subscriptions, at least joint the Red Cross in your local chapter, paying one dollar for the privilege, and if there is no chapter in your home town, then it becomes your duty to form one and join the one that you form.

I have tried to give a few definite details in regard to the various medical services. If war really becomes active opportunities will spring at you, and instead of having to hunt a place to serve, the place to serve will hunt you.

I should like to close with the closing words of the address which President Wilson delivered to the people the other day: "The supreme test of the nation has come. We must all speak and act and serve together." (Applause.)

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IRITIS.

P. I. Hopkins, M. D., Dothan.

The purpose of this paper is to stress the importance of the early recognition of this condition. Iritis is an inflammation of the iris and is one of the common affections of the eye. It may be congenital or acquired, traumatic or idiopathic, primary or secondary, simple or complicated, acute or chronic, and may attack one or both eyes. While almost always amenable to treatment, if recognized in its inception and judiciously managed, it usually impairs the sight more or less seriously, and permanently damages the integrity of the eye if allowed to run its course unchecked, or if improperly or tardily treated. It is of the first importance therefore, that its true character should be recognized at the outset, and that the required therapeutic measures should be resorted to without delay. A diagnosis of iritis is commonly not a difficult matter and indications for its treatment are usually plain. It is nevertheless true that it is frequently confounded with other forms of inflammation of the eye and improperly treated; and in consequence the patient becomes partly or entirely blind.

Symptoms: Generally speaking the presence of iritis is to be suspected whenever, without increase of intra-ocular tension or other evident cause, pain in and around the eye, usually worse at night and accompanied by peri-corneal subconjunctial injection, a contracted pupil and photo-phobia. This train of symptoms does not necessarily indicate the presence of iritis, but it should put us on our guard and make us search carefully for other evidences of its existence. A dull appearance of the iris with a change of color and more or less swelling of its tissue; immobility of the pupil and perhaps loss of its circular form; less of transparency of the aqueous humor and frequently of the cornea as well, with dullness of vision; adhesions between the margin of the pupil and the capsule of the lens, which, however, are frequently not evident until a mydriatic has been used; and in severe cases a grayish opacity of the

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pupil from the deposition of lymph on the lens capsule. These changes should be sought for and if found establishes the diagnosis beyond question. Pain in iritis is referred to the eye, the nerve-exits around the orbit, the temple or to the side of the nose along the course of the nasal nerve. Pain may be entirely absent or may be so excruciating that the patient begs for relief. The eye is tender on pressure, especially at a point about two millimetres behind the corneoscleal junction near the middle of the upper lid. Accommodation is impaired. When the deeper structures of the eye are involved, which condition is called irido-cyclitis, the chain of symptoms is as mentioned above, with increased severity to which is added edema of lid, cloudiness of vitrous and floating particles in same.

Diagnosis: Iritis is often mistaken for acute catarrhal conjunctivitis. The diagnosis being made by the following points: conjunctivitis presents a discharge, redness is situated posteriorly, the iris responds to light, vision is not affected, tension of the eye is not changed, color and lustre of iris is normal. Whereas, in iritis absence of discharge, redness at corneal margin, occasional increased tension, small and muddy pupil and with the use of oblique illumination, slight changes in the corneal tissue of the iris, and in many cases adhesions between iris and lens are found. In severe cases too much dependence cannot be placed on the peri-corneal injection as the whole conjuctiva is often injected. One very important point is the differentiation of glaucoma and iritis the main points are dilated pupil, patient usually over middle age, increased tension, shallow anterior chamber, cornea is anæsthetic, and the use of opthalmoscope shows excavation of the head of the optic nerve and pulsation in the retinal arteries.

Varieties: Serous, plastic and pharencymatous.

Causes: Trauma is often a cause, but the disease is generally due to come constitutional vice. Other causes are syphilis, which represents about 50 per cent of all cases. Rheumatic iritis represents 30 per cent, which has for some of its underlying causes gonorrhoea, pyorrhoea, septic teeth and tonsils, accessory sinuses, endometritis, otitis, auto-intoxication, typhoid fever, bronchitis and pneumonia.

Exudative iritis is the most frequent form of gonorrhoeal iritis, the chief sign being profuse exudate of lymph into the anterior chamber. Relapses are due to reinfection as in the

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gonorrhoeal form from uncured urethritis and prostatitis. Pyorrheal iritis according to some authors is a very frequent source, the sympathetic type should also have mention.

Remembering the regional anatomy of the eye, with the close relationship of the nasal accessory sinuses, the very thin walls allow an extension of inflammation by continuity or through the many venous and lymph channels.

Treatment: The chief indications in the treatment are first by local and constitutional remedies to control and overcome as quickly as possible the inflammation, and secondly, by the use of mydriatics to keep the pupil widely dilated for 3 to 4 weeks, so that adhesions shall not form between the posterior surface of the iris and the lens capsule.

For the latter purpose atropine is the sovereign remedy, and as a rule, should be preferred to more recent mydriatics. The addition of dionin and cocaine aids the action of atropine, hastens the absorption of exudates, diminishes intra-ocular tension, and relieves pain. It often occurs that patients are seen after adhesions have taken place. We must attempt to secure dilatation which will necessitate the forced use of mydriatics with the internal administration of large doses of mercury, iodide of potash, sodium salicylate, quinine, appropriate nasal treatment, good dentistry, removal of tonsils, attention to the prostate and urethra or other foci that we may determine, from a most thorough and painstaking examination. The intelligent use of vaccines will be in order. There are numbers of other points in treatment but the object of this short paper was to bring to your attention the importance of early diagnosis.

DISCUSSION.

Dr. S. L. Ledbetter, Birmingham: The reporter has covered the ground pretty well, so far as the nature, history, symptomatology, diagnosis and treatment are concerned, and if there is anything else left, I do not know exactly what it is. There are some few features, however, that I will discuss briefly.

Dr. Hopkins stresses the importance of early recognition, and inasmuch as glaucoma is a condition the pathology of which is to a certain extent in doubt, it is not always easy to

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make a differential diagnosis between an acute inflammatory glaucoma and an irido-cyclitis. The diagnosis is not a difficult matter in ordinary plastic iritis, however, and in this type early diagnosis is especially important on account of the rapidity with which adhesions form.

The doctor mentions irido-cyclitis or serous iritis. The term serous iritis is not used very much any longer; it is not a term used to apply to iritis pure and simple, because it has been determined definitely that serous iritis is really a cyclitis, and that the iritis is only a complication of a cyclitis. The anatomical relation between the two bodies, the iris and the ciliary body, is so close; in fact, the inner coating of the iris is also the inner coating of the ciliary body, and the two form a part of the same tract; and consequently a disease affecting the one will be very apt to affect the other, and in nearly all cases of cyclitis of any type whether serous or suppurative, in nearly every case we have more or less iritis as a complication. So that the two go together and the treatment of one would be put down as the treatment of the other. Irido-cyclitis, with a dark, cloudy vitreous, and a sluggish, heavy iris, with involvement of the choroid, really becomes one of the most serious and dangerous troubles with which we have to contend. The simple or plastic iritis, which is due to a variety of infections which the doctor mentioned in his paper—if treated properly from the beginning— is quite easily handled.

If it is due to a specific infection, of course, the treatment is largely constitutional. However, the local treatment adds quite a good deal to the comfort of the patient, and helps in the cure, though that is a secondary consideration. We find in a great many cases that the measure which relieves the pain and makes your patient comfortable helps toward a cure.

Making a differential diagnosis along those lines is a very essential point in the cure of the disease, and it is absolutely necessary, or should be, that every physician be able to recognize the early symptoms of iritis and cyclitis, because what you do must be done quickly, otherwise your results are not satisfactory. Once the pupil is blocked with a deposit of lymph covering the capsule and binding down the iris to the anterior capsule of the lens, that eye can rarely be again a very useful or serviceable eye. Because to remove the membrane you have to uncover the lens, break up aldhesions and get rid of your

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lens, which is not always an easy matter. Of course, you can remove the cataract, but you are much more apt to get an iritis following your operation, with a closing up of your pupil space. So that, while you may do a good cataract operation, your result is not always satisfactory and results are the things we are after.

There are two things you want to do: first, recognize the condition, and then the cause. If it is due to a specific trouble your treatment is simple. You treat it as you would a specific condition anywhere else, with the local treatment, of course, for comfort, and as an aid to internal medication.

The essayist did not mention blood-letting and leeches. I have used leeches a good deal, and I am still using them, but not as frequently as I once did. Still we now and then run across a case, a very painful condition, in which a leech helps very much. If you keep the iris drawn well out from the center of the pupil you do not get adhesions, and when the inflammation has subsided you have a good clear open pupil in the majority of cases.

One of the most difficult types of iritis to treat is the purulent or suppurative type. Now, you all know something of the anatomy of the iris. It is composed very largely of fibrous tissue, connective tissue, with a vascular layer and the pigment cells and the muscles. Of course, if you get much plastic material deposited in the iris those muscles are very much impaired; they lose their usefulness; they are heavy, and the pupil does not respond to light as it should.

There is another type of iris trouble that the doctor did not lay any particular stress on. Perhaps he does not see very much of it, but in the cities among the poorer people you do see it, and that is the tubercular type. There have been quite a number of things used in the treatment of that form of trouble. I have used the vaccine treatment quite a good deal, and I think in some cases I have gotten very excellent results. In other cases I did not seem to get very much out of it.

As to local applications! Of course, we are all taught to use hot compresses, but in some cases they do not give the results desired.

End results are the things you have to look to, and in order to get good end results you have got to recognize your condition early.

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Dr. William C. Maples, Scottsboro: I wish to tell of a case that I recently had. This was a woman about thirty-five years old. The history showed that she had had two or three other attacks. When I saw it I made a diagnosis of rheumatic iritis. The pupil, however, was not greatly contracted. There was a dull look about the eye, and I could make out considerable increased tension. It was a question with me whether I was right in my diagnosis, whether I did not have an inflammatory type of glaucoma. But I put a solution of atropine in the eye, and the pupil dilated just a little and stopped. I continued the atropine until her throat got pretty dry and the pupil would not dilate any more. I got scared and sent her to an oculist. He reported that it was a case of rheumatic iritis. This woman had a tonsil that was badly inflamed, and I suspect that that was where the trouble started.

The point I wish to make is that we as general practitioners see those cases. I have seen iritis a good many times, and some of the cases are perfectly easy to diagnose. In that case it was difficult to me. I think there was certainly some increased tension, and the vision was very much reduced. There was that dull look about the cornea, and I thought I could detect a little greenish reflex such as you see in glaucoma, and the pupil would not dilate under atropine. The question in my mind was whether it was a proper thing to use the atropine, whether I should not have used a miotic, such as eserine. There was a lot of trouble in that eye, and she suffered fearfully from pain. She had had the trouble before, and she had a five per cent solution of dionin which she put in the eye. I was not familiar with dionin. That case was kind of a puzzle to me to know just what was going on in there. I thought there was inflammation back in the ciliary region, probably a case of irido-cyclitis. It was a very interesting case, and I would be glad to hear a discussion as to how we can tell just when to use atropine.

Dr. Ledbetter: Dr. Hopkins had to leave and asked me to close for him. I don't think there is anything else that I want to say particularly.

The doctor spoke of the mydriatic and when to use it. I think in all cases of clear cut iritis or cyclitis it is well enough to use the mydriatic and push it, but sometimes when we have

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a very sluggish iris that does not dilate well and we know there are deposits on the anterior capsule, we may, in our efforts to get results, put it too far, but if you drop it in on the outer side of the eye at the outer canthus and put a little compress over the inner canthus so as to prevent the tears from carrying the atropine into the nose, you can use it for a long time without getting the physiological effect on the nose and on the system.

Sometimes, too, we are called upon to stop the use of a mydriatic on account of the tendency to develop glaucoma. I do not mean to say that an irido-cyclitis is going to produce a glaucoma in a large percentage of cases, but I believe the glaucoma is very frequently brought out in old people by this inflammatory condition of the ciliary body, which was the primary cause of the trouble, and those cases are nearly always septic.

Now, as to the dionin. I did not mention dionin in my discussion. But I use it quite a good deal, and get good results from it, but, as the doctor states, it produces much edema, redness and pain for a short while. The physiological effect of dionin is to produce that edema. But it is like blood-letting; it takes the blood out of the tissues, and with the subsidence of the swelling you get some relief.

Dr. H. S. Ward, Birmingham: I am not a specialist in this particular kind of work. This paper on focal infection is certainly one of the most important subjects that is going to come before this Association, and especially to the men who are doing general practice. To my mind there has been no more epoch-making work in the last few years than the paper that came out by Billings in the Journal of the American Medical Association about two years ago. That has almost revolutionized our ideas about rheumatism and a great many other forms of infection. Up to that time we thought that if we could give large enough doses of salicylate of soda we could cure any case of rheumatism, especially of the acute type. We now find we can give them all we want to, but unless we find the focus and remove it the patient will continue to have rheumatism.

Now while the doctor's paper only covered the most common causes of infection, we must look further. Personally when I see a man with a pain anywhere, without a definite cause, I first look at his teeth. If the teeth are clear, then I look at his

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tonsils, and next find out about his prostate; and if you find a chronic appendix, or a chronic gall bladder, any of these will act as a focus, that will invalid the patient for many years. You can give him all the drugs you want to and they are not going to improve unless the focus of infection is taken care of.

Whenever I have a patient come in complaining of a neuritis and a sallow complexion and I look in the mouth and find a beautiful display of dental handiwork, I know at once that it is necessary to have a mouth-cleaning. I have in mind a patient of that kind, and when the mouth was cleaned up the neuritis disappeared. Another patient, I looked at his prostate, found nothing; then his tonsils, found nothing. Finally after three or four attacks, I found an ingrowing toe nail that was the focus of infection. And every time this inflammation flared up he had a violent lumbago. As soon as we cured the toe there was no more lumbago. So in all these muscular and joint affairs and neuritis if you find the focus of infection and clear it up you will cure the rheumatism. In all these old women who have set up with rheumatism for years it will frequently be a tooth, though not always; but if you can locate the focus of infection you can stop their drugging, even if you cannot cure them entirely, and you will have done these people a great service.

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FOCAL INFECTIONS OF EAR, NOSE AND THROAT IN RELATION TO GENERAL DISEASE.

PAUL S. MERTINS, M. D., Montgomery.

Your President has asked that I discuss the focal infections of the mouth, throat, nose and accessory sinuses in relation to general disease.

The last words of one of the world's greatest poets was an appeal for more light; the last decade has lifted the diagnostic veil from a number of diseased conditions and has thrown light where we were in darkness. We are no longer satisfied with a diagnosis of a rheumatism, a neuritis, an endocarditis, a uveitis, or a myositis. The conditions to which we have given these names are often only symptoms or results of a focal infection. To discover this focus of infection may require the service of the dentist, radiologist, microscopist, urologist, laryngologist, or the internist, and even then only after long and careful search will it be found. The focus of infection may be easily found in many cases while in others a very small abscess at the tooth apex may produce symptoms sufficient to wreck the whole physical being, and even to result in death.

The recent lamentable death of one of our greatest surgeons with a renal focal infection resulting in aortitis illustrates the difficulty often encountered in diagnosis. Dr. Murphy himself made the diagnosis of a cryptic infection which he located in the kidney, but it was not until autopsy revealed a pus sac in a completely destroyed kidney that the diagnosis was confirmed.

The mouth, throat and accessory sinuses offer abundant opportunities for focal infections. The teeth, from disease or often from imperfect dental work or anomalous conditions will have foci of pus at their apices. A mouth with many large fillings and especially crowns should be looked on with greatest suspicion. Pain spontaneous or on pressure may be lacking, the heat and cold test be negative, and yet the X-Ray may show one or more apical abscesses.

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The tonsils composed of masses of lymphoid tissue with many glands in its substance, are the most common point of focal infection. The hypertrophied tonsil projecting into the fauces is less likely to cause trouble than the submerged type of tonsil. In making a diagnosis of chronic infected tonsils we should make a careful examination. Simple inspection of the throat is not sufficient. The following points will be of value in determining whether the tonsil is infected. If the tonsil is swollen and red, suspect infection. If the anterior pillar is congested, or there are palpable cervical glands, the tonsils are probably infected. To examine the tonsil, the tonsil pillar retractor or a strabimus hook should be used to retract the anterior pillar and to explore the crypts. This examination will often reveal one or more cheesy masses of epithelial and microbic detritus. Even with this care we may fail in our diagnosis, and only during the tonsillectomy may we find a deep-seated focus of infection.

Chronic infections of the accessory sinuses are common, and may give rise to slight or no symptoms to attract attention. If the infection is an open one, the diagnosis by rhinoscopy may be easy. Where the infection is closed, the diagnosis may be made by the symptoms, transillumination, exploratory puncture, or X-Ray examination.

Chronic infection of the ear is easy to diagnose. In my experience, it is a rare cause of general symptoms except where the lateral sinus has been infected, or the adjacent brain tissue involved, conditions which in themselves call attention to the ear as the primary focus of infection.

To illustrate the role of focal infections in relation to general disease, I wish to report the following cases:

Case 1. Miss P., nurse; patient of Dr. Mount.—Rheumatism in feet. Unable to go up steps. Tonsils chronically infected. Four days after tonsillectomy able to go up steps without pain. No return of rheumatism.

Case 2. Mrs. A.—Rheumatism all parts of the body, arms, shoulders, back and legs, worse at night. Unable to turn over in bed on account of pain. Infected tonsils. Tonsillectomy cure.

Case 3. Mrs. H., age thirty-two.—Pain in back following acute tonsillitis. Four weeks after tonsillitis, she was still suffering. She was referred to me by Dr. Wilkerson, tonsils

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chronically infected. The tonsils were enucleated and ten days later all her pain had stopped and they had no further trouble.

These are common histories and the connection between rheumatism and focal infections is no longer a theory, but an established fact.

Case 4. Mr. L., a mail-carrier from Conecuh county, referred by his family physician.—Chronic iritis, both pupils bound down by thick adhesions. Has had frequent attacks of rheumatism during the last eight years, vision much impaired. Examination of mouth showed many carious teeth, pyorrhoea gingivitis. The patient was referred to his home dentist, who reported that he had extracted four roots and one crowned tooth with an apical fistula. The gums and pyorrhoea were treated and the patient given instructions in mouth hygiene. The inflammation of eyes cleared up, the vision has improved, and the general health and digestion is much better.

Case 5. Miss T.—Three or four attacks of mild iritis following attack of tonsillitis. The tonsils were enucleated, the eyes cleared up and for over a year she had had no trouble.

Case 6. Mr. C. A., age 46.—Four attacks of tonsillitis rheumatism and iritis during the four or five years he lived in Montgomery. Each attack confining him to his room for from three to five weeks. The patient refused operation from fear of ether and possible hemorrhage.

Case 7. Patient of Dr. C. T. Pollard, child about four years of age.—Hypertrophic tonsils, tonsillitis, acute middle ear, acute nephritis. The kidney complication cleared up in about four weeks. I do not know if tonsils were removed, though this was advised.

Case 8. Mitchel B., age 7, patient of Dr. M. L. Wood.—Tonsillitis marked cervical adenitis, temperature 101. No eruption or strawberry tongue. Acute nephritis. Under general treatment by Dr. Wood the kidney complication cleared up in about a month. The tonsils were later removed, and now after a year the child is in perfect health, is growing rapidly and the urine is normal.

Cases 9 and 10. Miss G., nurse, and Dr. H.—Both cases alike, general depression, headache, tired most of the time. Closed empyema of frontal sinus, duration of several years. Radical Killian operation relieved both patients. Their gen-

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eral health is much better. The headaches are gone, and the general depression and tired feeling is a thing of the past.

Case 11. Miss G., age 22.—Neuritis right side fo face and region of ear, teeth X-rayed showed several with apical trouble. The teeth were extracted, but the neuritis continued. The patient was treated as a neurotic. Two months later the patient returned with a torticollis in addition to her neuritis. The right tonsil was inflamed, the tonsils were removed a few days later and now after several months the patient has improved in general health. Her neuritis has cleared up and she has gained several pounds in weight.

Case 12. Any child four to twelve years of age, chronically infected tonsils, anaemic, tired at school, undeveloped, frequent colds and sore throat, tonsillectomy improvement in general vitality, weight, development and health.

These, gentlemen, are but isolated cases, and in the experience of any practitioner could be duplicated many fold.

The results of focal infection may be serious, involving even life itself. The removal of a focus of infection may give most brilliant results, but let us use judgment, and not be carried away with enthusiasm in advocating surgery or extraction of teeth unless the indications are clear and marked. Failure to get results will tend to harm your own reputation and bring these most valuable operative procedures into disrepute.

DISCUSSION.

Dr. S. L. Ledbetter, Birmingham: I do not like to see a paper of that kind go by default. The doctor has read us a good paper. He gives you something to think about, and after all the main point of a paper is to give you something to think about, something that you can take home with you, something that will give you suggestions as to methods and means of getting rid of your troubles.

Of course, I know you all understand that the teaching of the present day is that rheumatism itself is not a disease at all; that it is purely symptomatic. We also know that all of the authorities are claiming now that rheumatism is the result of septic absorption from some focus somewhere or other, generally in the tonsil, teeth or intestines.

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Now the doctor's cases show what all eye, ear and throat men have found, that where you find a septic condition existing in the tonsil or in an adenoid and remove it, in a large percentage of the cases you cure your systemic condition. Still the thing that I want to speak of here is the other side of the question, and I am persuaded to say what I do, not because I disagree with the authorities along that line; I know that such conditions are caused by septic infections, but the question is to locate the source of that infection before operating. We know that the tonsils are not the only things that produce rheumatism; that there are other focal points of infection; that all cases of rheumatism are not due to infection of the tonsils; and that you find it necessary in many cases to advise the family physician to the effect that the tonsils are not, the cause of the trouble in his case.

If we find a focus of infection in the tonsil and can find no other cause, then I think we should remove the tonsil. But in many cases we remove tonsils and do not get results and the patients are very much disturbed when they find they have had their trouble for nothing; therefore, we should be sure the tonsils are bad or that no other source of infection can be found. If you find no other source of infection then it is well enough to remove the tonsils and see what you get. I think an experiment in that case is justifiable. In some cases where the tonsils absolutely show no focus of infection I remove the adenoid, and get the result that we are looking for. Then I wait for further developments.

I gather from the reading of the literature of the present day that some of the leaders in oto-laryngology are coming back to the idea that it is not always necessary to remove the entire tonsil. I think in many cases of mechanical obstruction from hypertrophied tonsils such procedure is entirely justifiable. I do not think, however, it is ever justified in removing the tonsil, because it seems to be a little larger than it ought to be, and yet that is done frequently. I have many parents come to me, bringing a big, strong, healthy child who never had anything but an acute attack of tonsillitis, and they want the tonsils removed immediately. I do not approve of that. The fact that the patient has had a sore throat or an attack of tonsillitis is not sufficient reason for removing the tonsils.

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Dr. Mertins: In considering the focal infections in relation to systemic disease I did not intend to make it an exhaustive paper, covering all of the conditions which might follow an infection. Very often they claim that high blood pressure follows a focal infection.

Now as to the question of operation on the tonsil. When a patient is having frequent attacks of tonsillitis I feel that it is a mistake to leave that patient with the tonsils. We know in quite a large number of cases of endocarditis that the valvular trouble originated from some tonsillar infection, and after the valves have once become involved, then it is often—I won't say too late to do your tonsil operation, but the damage has already been done which the removal of the tonsil would have, in all probability, prevented, and it is like shutting the stable door after the horse is gone.

The examination, of course, as Dr. Ledbetter has said, should be thorough, and we should be convinced that there is a disease of the tonsil, and not simply remove every tonsil which comes into the office. The point I made in my paper was that we should make a thorough examination; if we find nothing in the tonsil we should go to the teeth, or the patient may have a chronic appendix or a chronic prostatitis causing the trouble. I recall an interesting case in the clinic of Dr. Pusey, in Chicago. A clergyman twenty-five years before had had an accident to his left eye, and some months later he developed an iritis in the right eye. In the meantime the other eye had been enucleated. A diagnosis of sympathetic ophthalmia was made. He was treated. Finally he came to this country. When he came to Dr. Pusey's clinic he was put in the hands of Dr. Irons, who found a prostatic condition following an old neisserian infection. This patient was put on vaccines and recovered.

I am not inclined to agree with Dr. Ledbetter in doing a tonsillotomy instead of a tonsillectomy. I feel that if an infected tonsil is worth taking out it is worth taking it out entirely. We are constantly seeing the results of imperfect work done ten or twelve years ago. The children are coming back with great big stumps of tonsil which are causing trouble. I feel that if you are going to do anything you should clean out the tonsils from the very bottom, so that patients will not come

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back and tell you that the tonsil grew back. If you do not do a complete operation sooner or later you are going to have trouble. You are not going to have trouble in every case; some are not going to get proper drainage from crypts; in some of them you will get the effects of hidden pus which you had not expected.

The subject of focal infection in my paper was simply limited to the eye, nose and throat, and did not include those conditions which may be found in other parts of the body.

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SUPRAPUBIC PROSTATECTOMY WITH MECHANICAL DRAINAGE.

COURTNEY W. SHROPSHIRE, M. D.
and
CHAS. WATTERSON, M. D., Birmingham.

It is not the purpose of this paper to discuss the value of the various methods of removing the prostate gland, for sufficient has been written on that subject, it seems, to show that the operations of the suprapubic and perineal prostatectomy are entirely different, as far as indications and predilection are concerned. The question of necessity for operation will not be considered, for abundant statistics are at hand to prove that the average catheter life is two years. While an exceptional case is reported in which the patient lives in a fairly comfortable manner for a number of years, this does not prove that the statistics are incorrect, for a great many patients do not live more than a few months, even though the most rigid aseptic precautions are taken.

In all suprapubic operations one, and probably the most objectionable feature to be considered, is drainage.

It is impossible for siphonage to start until the bladder is completely filled and sufficient pressure is exerted for the column of fluid to rise above the level of the patient's body, and it is almost impossible to close a suprapubic wound in such manner that leakage does not occur.

This leakage causes infection in the perivesical tissue, composed in great part of fat, and the subsequent toxemia, septicemia, or pyemia is often one of the contributory causes of death. We have seen, and we are sure that a majority of the gentlemen present have seen, severe infection of the prevesical tissue extending even into the muscle sheaths following suprapubic cystotomy for drainage, stone, or prostatectomy.

Without mechanical drainage and where we depend on pressure to produce siphonage, it is next to impossible to prevent leakage around a catheter which is sutured in place in the bladder, for the slight pressure necessary to form a siphon is

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usually sufficient to force the urine through a weak point in the futures surrounding the catheter, before siphonage is started.

The inevitable result is infection or necrosis of tissue. Another point in favor of mechanical drainage is that the bladder is kept comparatively dry all the time, the tube extending deep and the bladder contents being removed every few seconds.

Numerous attempts have been made to construct an apparatus that would drain the bladder mechanically at stated intervals, and at the same time not produce sufficient vacuum to incite hemorrhage, or cause discomfort to the patient. These consist of the hydraulic suction pump of Chetwood which was later, because of variation in water pressure, changed to an electrically driven pump, and the tipping cup of Bremerman, which produces a weak vacuum, but sufficient to cause the formation of a siphon which, once started, completely empties the bladder; and lastly, the Kells suction pump or the Kells constant drainage machine as described by Hume Logan and Kells.—The American Journal of Surgery, June, 1916.

We believe that the success of any bladder drainage lies as much in the form of drainage tip to be used in the bladder as in the apparatus producing the suction, and to be of value the suction tip must be so arranged that sufficient vacuum is produced to remove urine, mucous, and blood clots from the bladder, but not strong enough to produce enough vacuum within the bladder to cause hemorrhage or pain.

The pump should be so constructed that it does not run after a certain fixed amount of vacuum is produced, for if it did, in the event that the suction tube or tip became occluded by blood clots or mucous, the amount of vacuum would be continuously raised and when it became sufficiently strong to dislodge the obstruction within the tube or tip the vacuum might be great enough within the bladder to cause severe pain or hemorrhage.

Another objectionable feature which must be overcome is noise. If we place a machine beside a patient's bed which produces enough noise to keep him awake, we do more harm than good, for rest and sleep are essential to recovery.

The apparatus which we have been using for the past several months is the Kells Constant Drainage Machine. This machine consists of an electrically driven Kells vacuum pump designed for alternating or direct current, a vacuum gage and

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two gallon jars, one for receiving the bladder contents and the other to be filled with a solution of permanganate of potash through which the exhaust from the pump passes, thus preventing the dissemination in the room of obnoxious odors. The intake air of the pump is filtered through cotton and the circuit is closed at stated intervals by means of a clock work arrangement. An emergency switch is provided for the use of the physician, nurse or patient. The apparatus is capable of producing twelve inches of vacuum, is noiseless, and reliable in its workings.

Points or tips to be used in the suprapubic opening deserve special attention. They are composed of an outer sheath which is perforated on the sides and open at both ends. This is passed through and fastened to a flat piece of metal. The tube therefore forms the perpendicular part of the letter "T," while the flat metal forms the top.

Within this sheath is a second sheath, the inner sheath which differs from the outer only in having a closed lower extremity with a large opening on either side within the inner sheath in the drainage tube proper, composed of a simple piece of metal tubing bent at right angles to form the letter "L." This tube does not quite reach to the bottom of the inner sheath. This drainage tip proper is easily removed for cleaning and sterilization as is also the inner sheath, as neither come directly in contact with the wound proper. The tubes are held in place by means of strips of adhesive plaster.

This tube not only drains the bladder proper, but also that part of the wound coming in contact with the tube or influenced by whatever vacuum is produced.

The flat metal forming the upper part of the letter "T" and being a part of the outer and inner sheaths may be fashioned so as to direct the tip into any part of the bladder cavity. For instance, the tip may be directed into the upper part of the bladder and the foot of the patient's bed elevated; this will assist in keeping the lower part of the bladder dry, but it must be remembered when using this or any other apparatus, or any drainage apparatus, whether simple or mechanical, siphon or suction, that the part of the bladder receiving the tip must be made the most dependent part of the cavity.

The Kells constant drainage machine is supplied with drainage tips of various sizes, the larger one to be used where the

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fluid to be aspirated contains a large amount of pus, blood or mucous, and the smaller ones to be substituted as soon as the character of the fluid permits, to hasten the closing of the wound.

This machine in our hands has proven of the greatest value, but we feel that the ideal drainage apparatus will be one which does not depend upon a clock work arrangement for automatic operation, but is so arranged that when the vacuum falls below a certain point, the machine automatically starts and continues to run until this vacuum is reestablished.

The following history will illustrate the manner in which we have used this machine following suprapubic prostatectomy:

J. L., age 76, colored, male, occupation farmer, married, no children. Patient has had trouble in urinating for the past two years. and has noticed that he has greater trouble when the bladder is full and the desire is urgent than when the desire is not so great. Two years ago, during the summer months when working in the field, he tried to urinate but was unable to do so, and it was necessary to send for a physician to catheterize him.

He remained in bed for several days and had no further trouble for about six months, when it was again necessary to use a catheter, which operation has been repeated on numerous occasions since that time.

When first seen the patient had a very much distended bladder and had not passed his urine for ten hours. He was immediately catheterized and the specimen of urine examined. This proved to be negative, except for the presence of a few hyaline casts.

Cystoscopic examination the following day showed a very great enlargement of the lateral lobes together with some enlargement of the middle lobe.

Functional Test: Indigo-carmine-right 11 minutes left 13 minutes, twenty-four hour specimen of urine quantity 1400 c. c. spgr. 1018. Patient was kept under observation for several days and another functional test and twenty-four hour examination made. The results were practically the same.

Operation the following day, suprapubic protectomy, gas oxygen anaesthesia. The prostate was very easily removed and the subsequent hemorrhage was negligible. In fact the whole operation did not require more than twenty minutes.

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Following the removal of the prostate, the largest sized drainage tip was placed in the bladder and immediately upon being returned to his bed, the machine was connected up.

For twenty-four hours the urine was colored with blood and some clots were withdrawn. The smaller tip was used after twenty-four hours. On the third day the patient sat up in bed, the drainage apparatus being continued. A few days later he was placed in a chair, the apparatus still being used.

About the tenth day the suprapubic wound became so small that it was decided to discontinue the suprapubic drainage. The wound was drawn together with adhesive straps and the patient was allowed out of bed. Slight leakage resulted for about four or five days, then the wound closed.

A sound passed through the urethra on the seventh day met with no obstruction.

During the whole time that this patient was in bed or we might say during his whole convalescence, there was no leakage, no infection, and no bad odor in the room. The wound healed by first intention and he was comfortable at all times. The nurse was very grateful and said that he was less trouble than any patient she had.

In conclusion we wish to say that:

1st. Mechanical drainage is of the greatest value in suprapubic operations.

2nd. That the machine used must have sufficient power to remove mucous and blood clots, but it must be so arranged that the vacuum does not exceed a certain fixed point. It must be noiseless and reliable in its workings.

3rd. The ideal machine would be one in which the working would be governed by vacuum and one in which a certain fixed amount of vacuum would be maintained.

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DISCUSSION.

Dr. Wilson, Mobile: I enjoyed very much the doctor's paper, and while I have not used that apparatus for mechanical drainage, I am satisfied from what the doctor said that it is a very useful help in suprapubic prostatectomy, because one of the disagreeable after effects following suprapubic prostatectomy, in fact, following any suprapubic operation on the bladder, is the leakage and getting the dressings and bed wet, and also the disagreeable odor that is constantly kept in the patient's room. The form of drainage that I have always used in those cases is a double fenestrated drainage tube. That is, I use two tubes. I insert them into the bladder so that the bladder can be easily irrigated. All of the blood clots can be removed and the bladder can be made clean in that way. But with this form of drainage it is impossible to keep the dressings and the bed dry. So I approve of the method that the doctor suggests. I think that he discussed the subject well, and I am glad to have heard his paper.

Dr. Steel, Birmingham: I only heard a part of the paper read by Dr. Shropshire, and that part of it was his description of his method of drainage. The use of that apparatus, so far as I know and so far as I have seen it in use, is very satisfactory in a hospital or where a man can have complete control of his patient, but it costs a good deal of money in proportion to what a great many doctors get for doing these operations, and there are other means which are just as effective and very much simpler and I think more suitable to the general run of cases. Of course, where Dr. Shropshire gets five or six hundred dollars for doing an operation it is all right, but where a lot of us do it for very little we have to depend upon some simpler means. And one of the most effective methods I have found was a simple celluloid powder box with two holes bored in the side and a tube put in there and joined to a tube leading to a vessel. The edges of that can be treated with adhesive plaster and fastened on the belly, so that there will be no leakage, and

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the urine will all be drained into a vessel under the bed. That is the method that I have used in the few cases which I have operated on. I find that very effective, and unless you do use something of that kind it is a very disagreeable operation to deal with.

Dr. Scott, Birmingham: I certainly enjoyed Dr. Shropshire's paper very much, and I hate to disagree with him, because he is a most particular friend of mine, but I am absolutely opposed to all mechanical drainage. You have got to take your mechanical drain out sometime, and when you take it out you have still got your leakage. I will also say that I am a perineal man, consequently I do not know very much about suprapubic prostatectomy. On a recent trip that I took in the Northwest I saw a great many suprapubic prostatectomies. The one that appeals to me most was the one by Lower in Cleveland; he is Crile's man. Lower does not do it as quickly as Squier, but it is very much more efficient, in my mind. He puts a catheter in the bladder, makes his suprapubic incision, then fills his bladder, and grabs the bladder with two tenacula and holds it and lets the water run out. In that way he has none of that drainage in the prevesical space nor the space of Retzius. After he does his prostatectomy he puts that catheter back in the urethra, takes two gauze drains and packs around the capsule of the prostate where it has been enucleated and leaves the catheter sticking beyond the capsule just about an inch. The next morning he takes the suprapubic drains out, and he told us that in three or four days he has absolutely no leakage.

That appealed to me. When I came home I had two cases that were waiting for a prostatectomy. I thought I would do both of them according to Lower. The first one I did according to Lower. I took the drains out the morning after the operation, and he never leaked a drop after that. That sounds almost impossible, but it is an actual fact. I got the catheter and the drains in the actual position demonstrated by Lower. In my next case, which was about a week later, I did not get the catheter in the correct position. I got the end of it within the capsule. In other words, you do your prostatectomy and you have a pouch there where the prostate was, and unless you get your catheter through that capsule you are going to have

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trouble, because after you close up you cannot shove it further in because it lies against the capsule. Now that is just what I did in the second case. It has been now about two weeks and is still leaking, but he is up and about and ready to leave the hospital today.

I think the whole secret of suprapubic prostatectomy is drainage per urethram. I think you can do better drainage that way than you can suprapubically. I think the logical operation for prostatectomy is the perineal.

Dr. Shropshire: I have enjoyed the discussion very much indeed. One advantage claimed for mechanical drainage is that you do not have so much trouble with blood clots and mucous. With this mechanical aspirating of the bladder you are not as apt to have the blood form clots.

Regarding what Dr. Scott said, in the early part of my paper I emphasized the fact that I did not advocate either the suprapubic or the perineal operation to the exclusion of the other.

He raised the point about having to take out the tube and still have an opening in the bladder. You reduce the size of the tube down to a No. 16 catheter, and after that is removed the edges of the wound are brought together with adhesive, and in the majority of cases it holds. And the patient will soon pass his urine naturally.

Regarding the operation as done by Dr. Lower, I had the good fortune a few weeks ago to see several prostatectomies operated on by Dr. Lower. The difficulty is to get the gauze packed within the capsule properly. If the gauze is dislodged it is a question whether or not hemorrhage might not occur between the capsule and the gauze. If the gauze is packed tightly enough it will stay, but the trouble about the Lower operation is the catheter in the urethra. If the patient moves in bed he is liable to set up some hemorrhage, and the danger of infection and irritation from the catheter in the urethra.

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FRACTURES NEAR THE ELBOW.

F. L. CHENAULT, M. D., Albany.

The elbow is formed by the lower end of the humerus and the upper ends of the ulna and radius. Fractures near the elbow may be of the adjacent ends of one or more of these bones. Further than an occasional reference to fundamental anatomical facts, with which we are presumed to be familiar, I shall not dwell on the anatomy of the parts.

These fractures are rather common, especially in children, and every doctor is expected to be able to successfully treat them. An uncorrected displacement of bony parts resulting in deformity and incapacity is not only a reflection on the profession, but is a living, walking advertisement, known and read of all men, to the chagrin and humiliation of the attendant.

Fractures of one or more of the bones mentioned may be obscured by swelling, beginning on the side of the limb corresponding to the fracture, but soon becoming general. Ecchymosis takes the same course. Thus delay on the part of the patient in seeking attention renders the examination more difficult.

Injuries about the elbow are always to be regarded seriously. Great care should be exercised in making all examinations. The bony landmarks to be studied are the external and internal condyles of the humerus, the olecranon process of the ulna and the head of the radius. Their relations, both in flexion and extension, should always be closely observed and compared with those of the sound elbow. Observe the character and location of any swelling; observe the carrying angle. Rotate the head of the radius. Determine possible movements of elbow joint. Make measurements. Look for painful line of fracture by pressure.

A correct diagnosis of the nature and extent of the injury to the bones in this vicinity and the direction and extent of displacement may be easy or it may be difficult. Diagnosis is a matter of applied anatomy. On a correct diagnosis we

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should make our prognosis and base our treatment. So the diagnosis of these injuries assume a peculiar interest.

When swelling or pain, or swelling and pain, render examination difficult or unsatisfactory, a general anesthetic should be given. In children this is rarely contraindicated and avoids much pain and nervous excitement as well as relaxing muscular contraction materially facilitating examination.

Many cases which formerly might have been regarded as sprains or contusions, are by the X-Ray demonstrated to be fractures. So, when examining any injury of the elbow, even though it seems to be a sprain or contusion, X-Ray pictures of the part should be made. These should show lateral and antero-posterior views, and should be compared with similar pictures of the sound elbow. Such pictures should be made before any attempt at manipulation or replacement and again after fixation dressing is applied to determine good or bad position of fragments. In difficult cases the X-Ray offers us the only positive means of accurate diagnosis.

Fractures near the elbow have been variously classified by different writers. Some have classified them according to the direction of the line of fracture; others as regards involvment of the point itself, which is an important prognostic point. Some anatomical classification, according to the portion of the bones involved, is more satisfactory. Thus we have Supracondyloid Fractures; Fractures of the Internal Condyle; Fractures of the External Condyle; Fractures of the Internal or External Epicondyles; Supracondyloid Fractures plus Intercondyloid Fractures (the so-called Y or T shaped fractures); Epiphyseal Separation of the Lower End of the Humerus; Fractures involving only the Articular surfaces of the Lower End of Humerus; Fractures of the Olecranon Process of the Ulna; Fractures of the Coronoid Process of the Ulna; Fractures of the Head of the Radius; Fractures of the Neck of the Radius. Here, as elsewhere, fractures may be simple, compound or comminuted. They may be single or multiple. They may be complicated by dislocations, sprains or contusions.

In these fractures the usual fracture symptoms obtain. We find loss of active motion; painful passive motion; motion between fragments where normally there should be no motion; crepitation, etc. In the supracondyloid fracture with posterior displacement of the lower fragment with the radius and ulna

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we have a condition simulating backward dislocation of the humerus. However, in this fracture the normal relations of the condyles and olecranon are maintained which would not be true in dislocation. In fracture the limb is mobile; in dislocation it is rigid. In fracture the deformity is easily reduced and easily recurs; in dislocation, in the absence of fracture of the coronoid process of the ulna, the deformity is difficult to reduce and does not recur. In fracture there is shortening of the arm but not of the forearm; in dislocation there is shortening of the forearm but not of the arm.

In fractures of the condyles, one or both, singly or connected above with a transverse or oblique supracondyloid fracture, the joint is usually invaded and a guarded prognosis should be given.

Remember the landmarks—compare with sound elbow—refer to X-Ray pictures—thus will the diagnosis of actual displacements in a given case be figured out. Manipulate the fragments into their normal anatomical relations and restore normal movements of the joint.

Fractures of either the internal or external epicondyle alone, not associated with a dislocation are neither very common nor very important. Diagnosis is made with the X-Ray.

In fractures exclusively through the articular surfaces of the lower end of the humerus the diagnosis is made with the X-Ray. If function is materially affected an open operation should be done and the fragment removed or fastened in place.

Many good surgeons insist on routine operative procedures in the so-called Y and T shaped fractures. This is justified in all cases when there is evidence of serious injury to nerves or blood vessels not relieved by reposition. In all operations avoid entering the joint, if possible. Never allow the finger to enter the wound, nor any instrument which has been in contact with the skin. A considerable proportion of the failures of operative treatment are due to infection.

For the non-operative treatment of all fractures of the lower end of the humerus, the so-called Jones's position or fixation in acute flexion is recommended. However, personal equation has something to do with it. Some operators prefer other positions, such as flexion at right angle, while some advise and practice fixation in complete extension.

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In ordinary cases of fracture of the olecranon process of the ulna an anterior splint with fixation in almost complete extension and adhesive straps to maintain the fragments in position is satisfactory. If there is much tear in the fibrous attachment of the triceps and periosteum and consequent separation of the fragments to a considerable extent some operative fixation should be done.

Diagnoses of fractures of the head or neck of the radius are best made with the X-Ray, but may be made by loss function of the radio-ulnar articulation with other signs of fracture present and the history of the injury.

In all these fractures the surest way to get a good functional result is to secure a good anatomical result. Methods and dressings which secure reposition and fixation of fragments are to be adopted—the better the reposition and the more absolute the fixation the smaller the callus. Mobilization and massage are important adjuncts in the treatment when properly applied after some bony union has taken place.

Practical reduction and fixation of fragments are essential to successful treatment, and can be secured in most cases.

Have and follow a routine system in these examinations.

In the absence of positive contraindications, unless absolutely certain as to exact diagnosis, make use of general anesthesia.

The time is soon coming, if indeed it has not come, when the doctor who treats these cases without the aid of the X-Ray will be adjudged guilty of negligence.

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INFECTION OF THE KNEE JOINT, WITH SPECIAL REFERENCE TO TREATMENT.

A. A. Jackson, M. D., Florence.

The knee joint is more frequently infected than any other joint. Because of its extensive articular surface and its distance from the trunk between the two longest bones of the body, it lends itself very susceptible to wear and to trauma incident to walking, and to accidents of various kinds.

For the convenience of discussion and to expedite the presentation of these few remarks, and with the hope that I might fully emphasize the vast and urgent importance of early recognition and classification of knee joint infection, I have divided the subject into the tuberculous and the miscellaneous or pyogenic metastatic infections, each class demanding somewhat different methods of management.

Knee joint infections, like all other arthritides, are looked upon as secondary manifestations or as complications of disease of a nidus of infection adjacent to or remote from the respective joint involved (barring traumatic infections), so that in the treatment of the knee joint for any infection, regardless of its character, it is just as important to attack the origin of the infection as it is the metastatic manifestation, and in addition, the patient must be systemically treated.

The tubercular joint is characterized in the beginning by its slow onset of symptoms—often a history of trauma, followed by moderate pain; absence of a chill and of high temperature; continued pain, moderate incapacity, and finally complete incapacity at the end of five or six weeks. If the disease is in the bone there will be only moderate swelling; if in the synovial membrane, the swelling will be intense and will so remain for an indefinite time.

Tuberculosis rarely attacks the synovial membrane in adults primarily, but in children the synovial membrane is *most often* first attacked. In children near ten or twelve years old the epiphysis usually succumbs first. If the focus of infection is in

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the epiphysis there will be swelling into the joint owing to the close proximity of the irritation to the synovial membrane.

Tuberculosis of the knee, as in other joint infections, tends to incapacitate the joint, but the tubercular process is slow and less destructive than the metastatic infections. Our first duty in these cases is, at the earliest moment, to institute immobiliation and defensive measures which, in the end, will afford the patient the most serviceable limb.

If the case is a child, the lesion will probably be in the subsynovial vascular membrane, or in the synovial membrane, or, if it is in the epiphysis, the synovial cavity will soon be invaded, thus establishing a communication between the cavity and the tubercular process. This makes the entire diseased area more accessible to treatment and affords an opportunity to establish connective tissue formation within the joint and encapsulation of the diseased focus. The connective formation is best produced by first aspirating the joint, then injecting into it two per cent formalin and glycerin, twenty-four hours old, as instituted and practiced by the late Dr. Murphy. Formalin is the best and safest known stimulant of polymorpholeukocytosis. Cicatrization is further favored by immobilization of the limb by a weight extension. Friction, rotation of the parts, and intra-articular pressure, all to be avoided, are eliminated by the weight. Absolute quiet of the limb is imperative if we expect to secure the desired encapsulation of the diseased focus. If there is no involvement of the synovial membrane and the lesion is only in the bone, the injection of any antiseptic into the joint cavity will not be productive of results. If an effusion exists, however, aspiration is strongly indicated for the relief of pain. Aspiration should be practiced in every joint where there is intra-articular pressure, great caution being exercised not to unduly abrade the articular surface with the needle. After the acute processes subside a plaster cast should be put on to keep the joint quiet. Ambulatory apparatus for relieving intra-articular pressure, and maintaining immobilization of the joint, are disappointing and should not be used. It is impossible to secure the required amount of rest when the patient is allowed to move about or in any way use his leg.

If the lesion is in the metaphysis, after all evidence of disease has subsided, excision of the upper end of the tibial shaft should be done, with the implantation of a piece of bone from

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the other tibia, using care to cut the bone off above and below the diseased area, all the time remaining on the shaft side of the epiphyseal line, because destruction of the epiphysis means shortening of that limb as the patient grows older. Here again, the knee is encased in a plaster cast to favor organization and encapsulation of the tubercular process.

In the case of an adult, Dr. Murphy says that "once tuberculosis is established in the knee joint, it is practically hopeless of repair with any type of expectant or non-operative treatment. Rest, extension, injection, etc., do not offer sufficient hope to justify the expenditure of time and suffering which they entail. Primary excision with production of arthrodesis of the concavoconvex type within a few months after the onset, is the proper line of treatment."

Systemic measures should be instituted at the outset, consisting of the use of a sleeping porch, intensive nourishment, the use of tuberculin systematically and persistently after the acute process subsides; and irriadiation of the joint with the Roentgen-ray, high tension tube, whenever this valuable aid is available, to help stimulate the process of encapsulation.

Tuberculin should be given for about a year. Begin with five drops of dilution number three, repeating it every five to seven days if the temperature does not exceed 99.6 F. Increase the dose two drops each time till twenty drops are given. Then two drops of dilution number two are given, increasing the dose one drop instead of two. This is continued till twenty drops are given, then begin with dilution number one and continue as before. Ordinarily by the time number one is given, immunity is established. If the fever rises too high with any given dose, the next should be reduced. The fever should not exceed 100 degrees F. The doses following should be guided by the fever reaction in each case. There is no average dose to guide one. The patient's fever reaction is the guide.

The metastatic pyogenic infections of the knee joint present themselves in a materially different manner from the tubercular infections. They come on in a fairly uniform time from the onset of the infection from which they metastasize. The pneumococcus, influenza and streptococcus infections metastasize with prompt regularity whenever they do involve a joint—the streptococcus within forty-eight hours; the influence and pneumococcus within fifteen days, and these are very often asso-

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ciated with trauma. The staphylococcus does not appear as early as the streptococcus, while the gonorrheal infection occurs ordinarily within twenty-two days after the appearance of the urethral discharge.

As already observed, tuberculosis is less destructive to the joint than the pyogenic infections and is less apt to produce ankylosis because of its tendency to heal by encapsulation of the infective focus. The metastatic infections, on the other hand, heal by the immunization processes brought about by the action of the phygocytes and the leukocytes.

When the metastatic infection is ushered in with a chill, it is more than presumptive that there will be one or more stiff joints unless prompt and efficient treatment is instituted. The chill classifies it as a surgical lesion and is a deciding factor between the type of infection that tends to destroy the synovial membrane and cartilages and cause a bony ankylosis, and the type that repairs without the destruction of these tissues. The bacterial emboli lodge in the subsynovial vascular and lymphatic tissues which line the fibrous layer of the joint capsule. An attempt to differentiate the type of infection by aspiration in the early stages of a given attack might be disappointing because the bacteria cannot enter the cavity until the synovial membrane itself is broken down. It thus becomes necessary, in order to establish the identity of the infection, to make repeated aspirations. This is particularly true with the tubercular and gonorrhoeal infections.

When the case is early observed, there should be every degree of confidence in expecting and in obtaining a functionating joint. Even if seen rather late there should be every effort made to turn our patients out with a straight limb even though the knee be ankylosed, and at some future time it will be much easier to do an arthroplasty than if the limb be flexed at various disfiguring and unsightly angles.

The plan of treatment best adopted in metastatic infections is first NOT to put on a plaster cast, but to put on a good weight extension,—ten to fifteen or twenty pounds, to separate the articular surfaces of the joint, thus relieving the capsular and intra-articular tension and preventing trauma to the articular surfaces that would inevitably ensue were the weight left off. The intra-articular pressure, owing to the effusion of infective matter in the joint, is relieved by aspiration. Through

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the same needle the joint contents are made inimical to the growth of organisms by the injection of some antiseptic that will cofferdam the lymph spaces and establish a chemical inflammatory reaction. This reaction produces a polymorphonuclear leukocytosis which renders the contents of the joint an unfavorable culture medium for bacteria. The agent that serves this purpose best, as in the tubercular joint, is a solution of two per cent, twenty-four-hour-old formalin and glycerin. It is imperative that the solution be twenty-four hours old because it requires almost that length of time for formalin to dissolve in glycerin. Five to fifteen or twenty cc. are first injected, depending upon the size of the joint. If the temperature remains 100.5 F. or more, the joint should be aspirated and again in forty-eight hours if much swelling remains. At this time there need be no injection unless the temperature is high, If much elevated, however, the same amount as at the previous injection should be introduced. Ordinarily two injections are enough. I have had occasion to inject the third time in one case. It may be necessary to aspirate again in seventy-two hours and even again if there remains much effusion and pain. The aspiration, with the continuous aid of the Buck's extension, completely relieves the pain. This plan cures most cases in three or four weeks, including gonorrheal joints. It does not serve, however, if ankylosis has occurred. It is a plan of treatment that can be conducted in any home even in the country and does not involve the services of a trained nurse for its proper supervision.

Infections of the knee joint, or of any other joint, should *not* be drained by the introduction of tubes. There is no more ideal way of producing ankylosis than by incision and tubal drainage. This practice should be condemned as unjustifiable in every case. If one is treating a virulent streptococcus infection and more drainage is demanded than frequent aspiration affords, the soft parts should be freely incised down to the capsule, the latter opened, the joint cavity irrigated with normal saline solution, and the incision in the capsule sutured. This should be followed by frequent aspirations and injections, as indicated by the progress of the respective case.

Owing to laboratory facilities that are now available, in every one of these cases, autogenous vaccines should be made as an aid to systemic treatment. This particularly applies to

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gonorrheal infections because it is a common observation that although the metastatic manifestation in a given joint be cured, it will recur persistently unless the infection be removed from the prostate, the seminal vesicles and the urethra. Stock vaccines in my hands have been disappointing.

The respiratory tract and the oral cavity should receive a thorough search in every case where a metastatic infection has occurred and any nidus of infection removed as a possible source of further trouble.

In the past, as in the present, the public has pleased to hold the doctor legally responsible for fracture deformities and who knows but that in the future we will be held responsible for deformities caused by arthritides that could and should be prevented?

DISCUSSION.

Dr. Mack Rogers, Birmingham: Since the announcement of the essayist to the effect that it is criminal to open knee or other joints, introduce tubes and irrigate them refutes a paper that I propose to present to this Association, I wish to defend the proposition that it is not criminal to open the knee joint or any other joint when it is full of pus and drain it and irrigate it or instill it with the solution I propose to tell you about, and that has not yet been tried out to any very great extent in America. What I refer to is Dakin's solution. Dakin's solution according to the method of Carrel is to my mind, and is to the minds of men who have been using it, a revelation. It is a benediction. It is the thing in suppuration. It has the power to sterilize a wound that is infected and cause it to heal as if by first intention.

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LACERATED PERINEUM AND ITS REPAIR.

CLARENCE HUTCHINSON, M. D., Pensacola, Fla.

In response to your complimentary invitation to present a paper at this meeting, it shall be my pleasure to report for your consideration, a selected series of one hundred cases of perineal repair, in all of which a standardized technic has been used, and to give you the detailed results thereof.

There has been no attempt to review the literature of this subject, nor will there be any comparison or criticism of any other technic used in similar instances, and my efforts will be confined to a minute presentation of the results of our own work, for whatever it may be worth.

When I speak of a standardized technic, I do not mean one of which every step is cut and dried, for any successful technic in plastic surgery must be sufficiently elastic to meet wide diversions in anatomical changes.

Of late there has been a considerable effort on the part of gynecologists to devise a true anatomical repair in perineal lacerations by various methods of suture of the levator ani.

Our method is simple, if it is anything at all, and we believe that it constitutes a true anatomical repair. It is familiarly called the single suture operation, because only a single long strand of chromic catgut, and one short curved needle is used for the entire procedure.

As a matter of convenient reference we have classified our cases into an arbitrary group of four degrees. For instance those cases of superficial laceration without any considerable involvement of muscular tissue, we call first degree lacerations. Those involving a moderate amount of muscular structure, we call second degree. Those that show a complete separation of the transverse and levator muscles, we specify by the third degree, while we choose to designate those cases in which there has been a complete destruction of the recto-vaginal septum, with loss of bowel control, by the name of fourth degree lacerations.

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Of this series, four were classified as first degree lacerations; thirty-two, second degree; fifty-three, third degree, and eleven, fourth degree. Of the eleven fourth degree cases, five were complicated by the presence of recto-vaginal fistulæ. In sixty-two instances some form of plastic work had previously been done. The average age of the patient was 36 years. 87 per cent gave history of laceration at first delivery. Of these 87 per cent, 31 gave history of instrumental delivery producing laceration. Eight cases had had previous secondary repair operations done.

Infection occurred in fourteen instances. Twelve infections subsided under appropriate treatment and the removal of all superficial suture material, and a fair result was obtained by secondary granulation. Two failed to heal and required a secondary operation; one of these failed entirely of sphincter control and had recurrence of recto-vaginal fistula after two previous operations elsewhere and two attempts on our part. Nisserian infection was definitely demonstrated in this case and all our efforts to clear this infection were of no avail.

We lay much stress on the selection of the time for doing this plastic work. We do not assert that it is impossible to do a proper repair of the perineum immediately after delivery, but we do say that we have not seen a single satisfactory perineal repair done immediately after labor. The enormous amount of oedema consequent upon the very force that produces the laceration, greatly militates against any true anatomical repair.

The very earliest time that we select for this work is at least eight weeks after delivery, and if a currettage is done at the time of operation and the presence of chorium is evident we still further defer the repair.

The preparation of patient begins at least forty-eight hours before the selected time of operation. Every effort is exerted to rid the ailmentary tract of all solid food material. More care is taken to this end in these cases than in the ordinary laparotomy. Full liquid diet with the exclusion of sweet milk is allowed during this period. Many of these cases present the problem of acidosis and to them we substitute the gruels from cereals, and the drinking of at least one pint of sol. of sod. bicarb. 3 vi to water Oi daily. It is in this class of patients that we find the most profound neurotics, with gastric manifestations, and the reflex hyper-chloridias, and their prepara-

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tion deserves every consideration. That it would be an unfortunate mistake to subject some of these patients to the usual drastic purgation, is often apparent, and the continued, repeated use of enemas is substituted. We use every reasonable effort to clear up any suspected gonorrhoeal or syphilitic manifestations before operation. The use of bromide and chloral compounds, and the pre-anesthetic administration of morphine gr. ¼ and scopolamine 1/150 has proved most satisfactory in our hands.

Preliminary hot tub baths, followed by shaving of the vulva and free use of equal parts of alcohol and tinct. iodine, both inside and outside the vagina constitutes our surgical preparation.

Technic: The muco-cutaneous margin at the lower end of the labia majora on each side is caught up with two pairs of small tenaculae. We have abandoned the use of self-retaining retractors devised for this purpose because they did not permit of the freedom of motion, and the change of tension that we required in our dissection.

The vaginal rim is now put to stretch and by means of a small sharp scalpel, a strip about 1/16 inch wide is cut from the entire vaginal rim between the points held by the tenaculae.

A pair of hemostats seizes mucous membrane of the vaginal side and dissection upward is begun by use of Mayo scissors, care being observed to follow fascial planes if possible. To promptly strike the fascial plane is fortunate, for this line of dissection will be void of any considerable hemorrhage; the hemarrhoidal veins are usually escaped, and there is little chance of "button-holing" the vaginal wall.

We consider this step most important, for a proper dissection and clear exposure of the muscular layers portends the success of the procedure. A good dissection completes the difficulty of this operation.

For the most part, this dissection is followed up along the median line, above the rectum, but often, because of dense scar tissue, or the extreme thinness of the recto-vaginal septum, we diversify and follow up two parallel planes of dissection, one on each side of the rectum, and that portion of the mucous membrane so closely adherent to the rectum is finally separated by a lateral dissection, from one side to the other, using the gloved finger covered with gauze.

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Greatest care must be taken in this latter plan to prevent injury to the rectal wall. The use of force has no place here. The result may be a fœcal fistula, or perforating infection from the rectum when there has been no visible sign of injury to the rectal wall.

The use of clamps to control hemorrhage is rare for the bleeding is usually venous and easily controlled by pressure or the subsequent suture.

When our dissection is complete the transverse perineal muscles are clearly recognized and pushed aside (Illustrations No. 1 and No. 2). The levators are caught up from each side with gentle tenaculae and brought together in the median line. The careless use of artery forceps, or other crushing instruments to pick up the levators will often result in necrosis of that portion of the muscle held by the forcep. The needle is now passed through both levators with a good bite at two places about an inch apart and the sutures tied (Illustration No. 3).

Any redundant mucous membrane in the vaginal wall is now cut away and the final suturing is begun by inserting the needle at the highest point in the resected portion of the vaginal wall, and this suture is continued for three or four insertions, approximating the vaginal edges in the median line. The suture now leaves the vaginal surface and becomes a buried continuous suture coapting the fascia from each side, and continues down the median line until the lowest angle of the perineal wound is reached. Here the suture is again brought to the surface and with a running baseball stitch includes the skin margin and the underlying transversus muscles, upward and back to the original starting point in the vaginal membrane.

In rare instances of extreme lacerations we employ a retention or crown suture of a single strand of silk worm gut which is deeply inserted through all the perineal tissue by means of a large needle, using one finger in the rectum as a guide against possible puncture of the rectal wall.

We have practiced the suggestion of several small puncture wounds into the surrounding tissue for the relief of oedema, such as is frequently employed after hemarrhoid operations. A single vaginal pad constitutes the dressing after a final application of alcohol and iodine.

It has been our experience that the use of large catgut forms an additional burden to the tissue and often causes trouble. We

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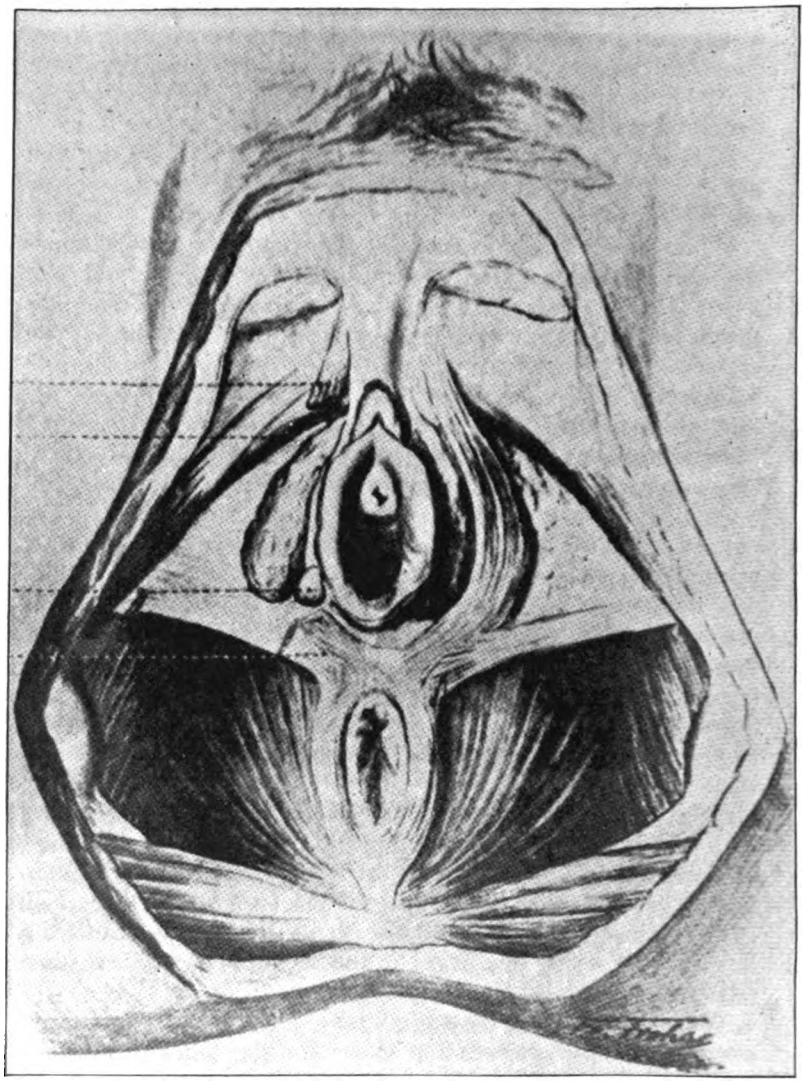

FIG. 1.—Outlet of a nullipara. Of course this presents quite a comparison to the outlet we have to deal with after injury.—(*Illustration from E. Martin.*)

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do not remove any of the No. 1 catgut sutures after operation unless there is infection.

After complete reaction from anesthesia the patient is allowed considerable freedom of motion. We do not indulge in the strapping of the patient's knees together, and allow them the use of a back rest after the fourth day. We believe that the suture will warn the patient of any undue tension put on it.

A single strip of iodoform gauze is loosely placed in the vaginal tract to act as a lamp wick in taking care of moisture. We allow these patients to void the urine if possible, and irrigate with a ½ per cent Lysol sol. after micturition. The nurse is cautioned to thoroughly dry the parts with a sterile sponge after irrigation.

We use morphine p. r. n. to control pain, and administer ¼ gr. before patient leaves operating room. A long post-anesthetic sleep has resulted in quiet, calm reactions with us. After twenty-four hours tinct. opium m x t. i. d. suffices for comfort and to control bowels.

Limited liquiet diet, without sweet milk is allowed and the bowels kept locked for six days. The vaginal pack is removed the fourth day and a single Lysol douche is given, after which the nurse carefully dries out the vagina by means of sterile sponges and forceps. We believe that often after douching in the recumbent position, much of the fluid is retained in the vagina; that such fluid renders the vagina soggy; may dissolve the sutures prematurely, and often leads to infection.

The bowels are moved the sixth day by administration of castor oil and full feeding is begun. Patient is allowed to sit up on the tenth day, but is not permitted to walk until the fourteenth day, when she is discharged.

Some of the most gratifying results that we have ever obtained in our surgical experience, have been from the successful, practical, and true anatomical repair of the perineum.

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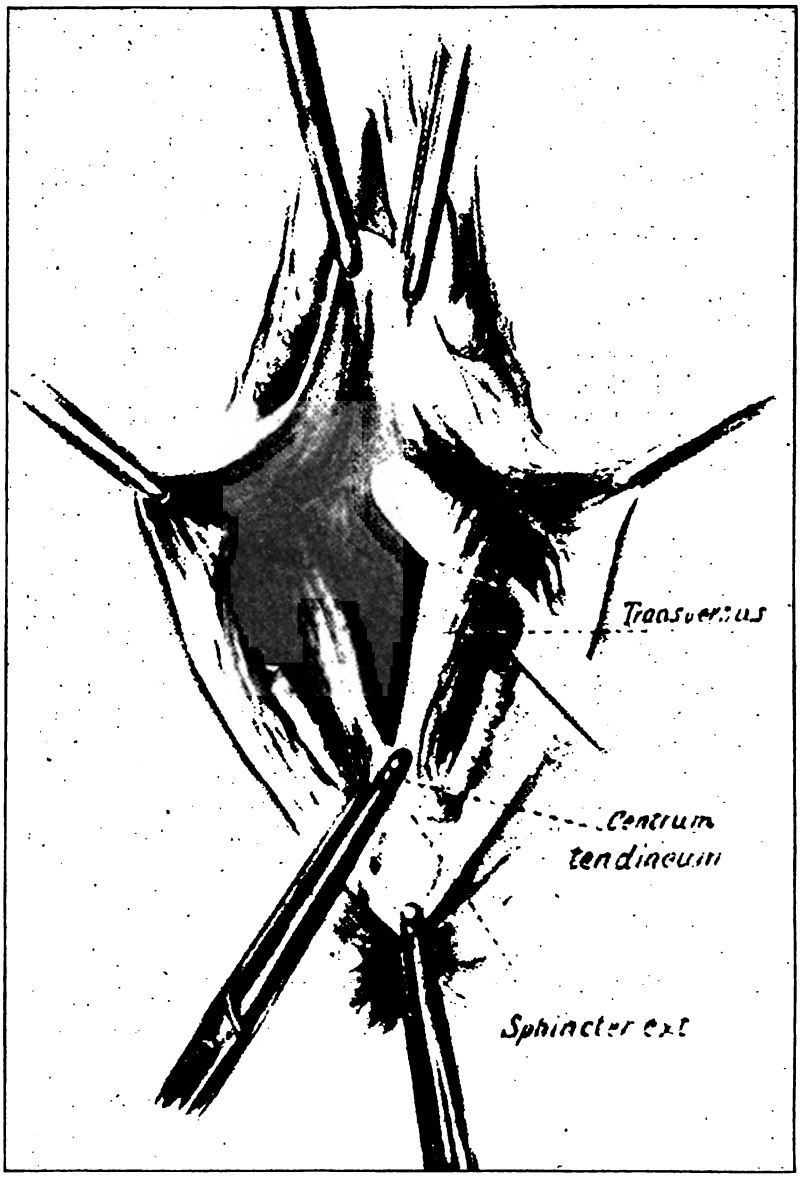

FIG. 2.—The transverse perinei here shown is very often mistaken for the border of the levator. We are particularly careful to isolate these muscles before any suture is begun.—(*Illustration from Doederlein & Kroenig.*)

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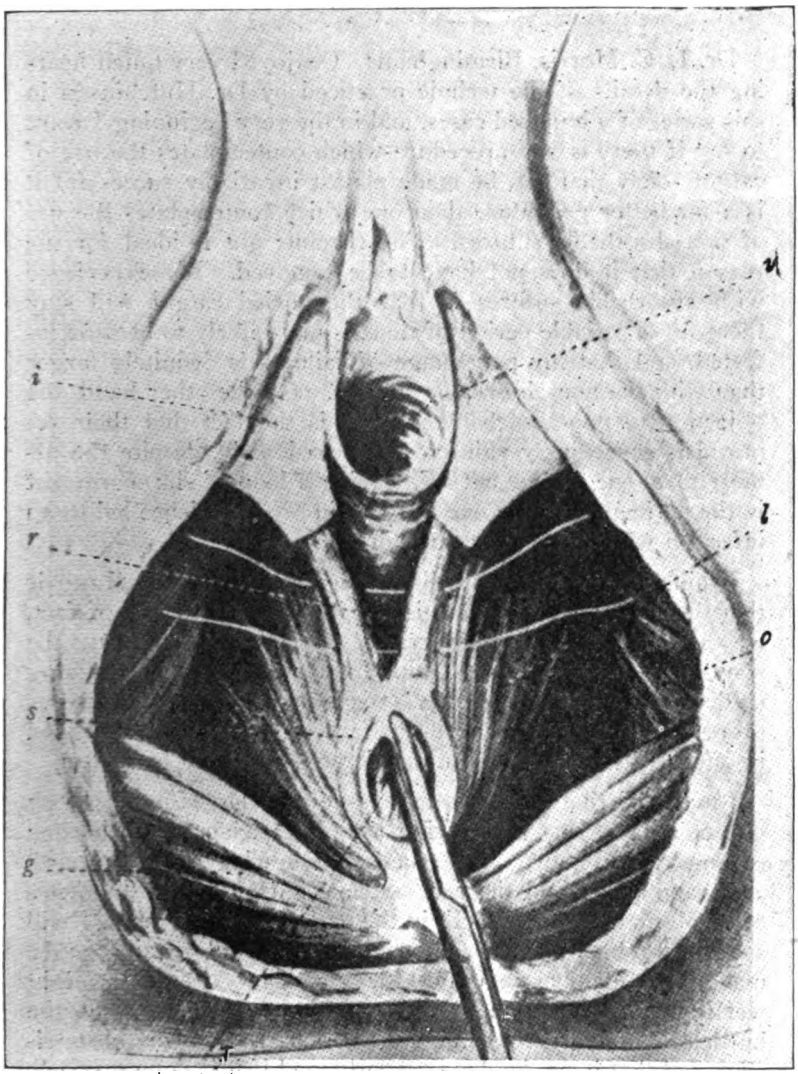

FIG. 3.—Showing "Levator Suture." This figure, however, presents normal vaginal outlet and no distortion of muscular tissue. T: Transversus; R: Rectum; S: Sphincter; G: Gluteus Maximum; V: Vaginal orifice; L: Levator ani; O: Obturator ani.—(*Illustration from Doederlein & Kroenig.*)

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DISCUSSION.

Dr. L. C. Morris, Birmingham: I enjoyed very much hearing the details of the technic practiced by Dr. Hutchinson in this series of a hundred cases, and in the very beginning I want to say if there is any procedure which contemplates the use of catgut solely that can be made almost invariably successful it is a far better procedure than one which contemplates the use of non-absorbable sutures. The chromic gut is ideal for the reason that it does not have to be removed. My experience with absorbable sutures is that the buried catgut will stay there for a variable period of time, is more likely to become infected, and that my percentage of failures is definitely larger than with the non-absorbable sutures. On the other hand, the objection to non-absorbable sutures is the fact that their removal is exceedingly painful, and occasionally, despite the utmost care, one will be cut off, leaving a loop of silk-worm gut in the perineum, and in one instance in my experience led to an infection which was very difficult to clear up.

I think the technic of the dissection and the anatomical repair that the doctor has described is excellent. As a matter of fact, we can vary the technic in perineal lacerations, alternating the standard operations as I have frequently done in teaching students, and if the dissection is made properly and the sutures properly introduced, the results are almost uniformly good in any of the various operations for repair of the perineum.

I must say that I want to take issue with Dr. Hutchinson on one point, and that is relieving the obstetrician of the burden of immediate repair. It is true that following labor the parts are traumatized and there is oedema, but either by the sense of touch or sight, or by both in the majority of instances, I will say almost invariably, a thoroughly successful repair can be made immediately, obviating the secondary operation eight weeks or more following the laceration. I believe that the burden of taking care of these lacerations is upon the obstetrician, and that it can be done properly, and if it is done properly it relieves the woman of the necessity for an anesthetic and a secondary operation; no matter how well we may be able to operate secondarily the obstetrician should repair these lacerations at the time.

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I think there is some little trick about introducing the sutures in the immediate repair, but it can be done, and the results are uniformly good if done properly.

One other point: Dr. Hutchinson says he does not strap the knees together. I think this is unnecessary in the majority of instances. There are cases in which when you get through there is a good deal of tension upon the sutures. You will find when you take the feet out of the stirrups that the whitening of the skin and mucous membrane of the perineum caused by tension will immediately disappear and the normal color will return when the knees are brought together. Those cases in their sleep separate their knees, put undue tension on the sutures and possibly interfere with the results. My practice has been for years in complete lacerations, particularly those cases who have been operated on unsuccessfully two or three times before, where there are adhesions between the pelvic bones and the soft tissues, in order to be able to get approximation in the mid line satisfactorily and hold it, to strap the knees together.

Dr. J. S. Turbeville, Century, Fla.: I wish to state how much much I enjoyed the doctor's paper. I wish to speak on just two little points. First, in regard to a careful dissection of the mucous membrane of the vagina from the tissues beneath. I have had the misfortune to tear the rectum in some cases, and I think every man should look carefully after his dissection and see that he has not got a tear in the rectum. If he has and attends to it properly he will get rid of a great many infections.

Further, I think that most of us are too prone to sew up the muco-cutaneous junction too tight. The doctor gets over that by the use of the stab wound.

Dr. W. R. Jackson, Mobile: I must say I enjoyed the paper very much indeed, and I approve of every step the doctor takes in the operation except the continuous suture, and that is the most important thing I think he emphasized. The continuous suture has this objection in surgery generally, that when it turns loose or tears loose by suppuration or absorption, then we have the whole thing turn loose. That is the objection I have to the continuous suture. We may think the No. 1 chromic gut is going to hold it tight, but a hematoma may

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form, giving rise to a locus resistentiae minoris and we have suppuration and giving way of the suture.

Second, the doctor says he removes all of the superfluous mucosa of the vagina. That is all right and makes a nice job when it is all sutured together, but nature put this mucosa here, and the majority of our operators tell us we must save all of the vaginal mucosa. There is an art in suturing up all of this in the last suture. This is the operation that the Mayos do, and I think they do it very well. It is claimed that the little tongue of mucous membrane has a certain sensibility and therefore lends something to the copulative process.

Third, catgut on the outside seems to me to be rather insecure. In addition to the catgut I use silkworm gut, two or three deep retention sutures; if there is a complete laceration I use a figure of eight suture and suture the sphincter and muscles together.

Dr. Hutchinson: Dr. Morris has emphasized the main joint of my paper better than I could, that is that dissection is the keynote. I believe that if a man does an ordinary inguinal hernia and thoroughly dissects out that hernia and thoroughly dissects out the sack and ties that sack and cuts it off, the hernia will get well. I believe that is true in the perineum. I think if you will thoroughly dissect these muscles out that nature will nearly always do the rest.

The question of extreme cases and strapping the knees: In one or two instances we have not strapped the knees but have cautioned the nurse about the position of the patient in bed, having a pillow put under the flexed knees, without strapping, and in all of these cases we rely upon retention sutures of silkworm gut.

Dr. Turbeville brought up the point of the tight suture of the skin and vagina. We make it a rule to make this suture very snug, for this reason: we believe that if the coaptation in the median line is snug there is less apt to be infection. In other words, we try to make that suture water tight without producing necrosis.

Dr. Jackson brought up the point of the suture breaking. I have had them to break. When it does I usually catch the place where it has broken and tie a knot where the loose point is hanging from the vagina.

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WHY GASTRO-ENTEROSTOMY FAILS TO RELIEVE

W. R. Jackson, M. D., Mobile.

The operation of gastro-enterostomy, or gastro-jejunostomy is performed for the relief and cure of duodenal ulcer, gastric ulcer and cancer, and gastric stenosis.

The symptoms that demand surgical intervention are those usually present in chronic gastric ulcer, duodenal ulcer, and gastric carcinoma. The most conspicuous of these are pain, nausea, vomiting, indigestion, hyperacidity, hematemesis, malena, constipation, and emaciation.

When posterior gastro-enterostomy for gastric ulcer is done, the patient usually manifests marked rapid improvement very soon thereafter, gaining from 30 to 40 pounds in two or three months.

After a period of time, varying from six months to two years, most of the old symptoms recur. Pain, distress after meals, nausea, vomiting, and loss of weight,—all of these symptoms indicate that the patient is not cured.

If we seek the cause by a second operation, we find that the ulcer has not healed, or has recurred; that new ulcers have formed, or the old ulcer has assumed a malignant aspect.

In many cases of gastric and duodenal ulcers, where operation has failed to give any relief whatsoever, we must seek the conditions that will give us the explanation of our failure.

What are the reasons or causes of failure in these cases? When it is recalled that gastric and duodenal ulcers are very often produced by metastatic infection from a pre-existent local focus of pus, it is no wonder that the ulcers are not cured by gastro-enterostomy, especially when the primary or essential etiologic factor is allowed to remain undisturbed.

Recently, it has been shown that these pyogenic foci exist in various parts of the body; such as the teeth-alveoli, tonsils, prostate and the sinuses of the superior maxilla, frontal, and ethmoid; also in the appendix and gall-bladder, as well as, the crypts of the urethra and oviducts.

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Any pus focus in any part of the body, not necessarily chronic, will cause distant metastatic infection. It appears that the mucosa of the stomach and duodenum is specially prone to infectious infarcts, explained by the frequent irritation of these membrances, thus favoring the localization of embolic bacteria. The size of the ulcer will depend, of course, upon the area of tissue infarcted.

There are other causes of failure of gastro-enterostomy than the failure to remove the pre-existing pus focus. The following conditions have been found to explain some of the failures: 1, Imperfect anastomosis, as too small a stoma and angulation of jejunum; 2, presence of ulcers in the cardiac end of the stomach; 3, jejunal ulcers from sutures; 4, cicatricial contraction of the stoma; 5, too long a loop, giving rise to a vicious circle; 6, presence of other pathologic conditions, such as gall bladder disease, appendicitis, intestinal stasis, ptosis of intestines, and bands; 7, herniation of the jejunum through the meso-colon; 8, neuratic patient.

It is conceded that gastro-enterostomy does the greatest good when the pylorus is obstructed by cicatricial *contraction* of the ulcers; thus, it would appear that the operation is one of drainage. If ulcers are located elsewhere than at the pylorus, the operation does very little good; and if any, it results from the bile and pancreatic juice entering the stomach and neutralizing the hydrochloric acid.

The consensus of opinion of the best operators today is that all chronic ulcers of the stomach and duodenum should be *excised,* and then gastro-enterostomy done.

The most common site of ulcer of the stomach is at the pylorus, and the most common form is the chronic indurated.

Chronic indurated ulcer of the stomach near the pylorus always demands excision, or pylorectomy; and, if the ulcer involves the lesser curvature also, sub-total gastrectomy is in order.

It would appear that the frequent practice of gastro-enterostomy *without resection or excision of the ulcers,* benefits the patient but very little, and when improvement does result, it is of short duration.

The same rule of excision and resection applies to duodenal ulcer also; gastro-enterostomy for duodenal ulcer, *without*

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excision of the ulcer, or resection of the pylorus, usually results in failure to cure the patient.

Operation for gastric ulcer is frequently done when no ulcer is demonstrable. In such cases, the patient frequently shows marked improvement, therefore, it is taken for granted that ulcer did exist, and its location problematical. Is gastro-enterostomy indicated, when the ulcer is not seen or felt? Is gastrotomy and search for the ulcer ever justifiable, when its presence can not be shown otherwise?

What are the indications to be met to make our operations for gastric and duodenal ulcers more satisfactory?

I would place first and foremost the *removal of all pre-existent local infection;* and second, the *excision and resection of all ulcers.*

Make a large stoma in your anastomosis; "suture the mesocolon opening an inch upon the stomach wall, so that this part of the stomach goes down through the mesocolon like a hopper, and the freedom of the ends of the jejunum is unhampered." Tack with suture the jejunum on each side of the anastomosis to prevent angulation of the same.

Perferom the "no-loop" operation, that is, the loop of the jejunum is so short that there is no angulation to cause the "vicious circle."

Use catgut and not linen or silk for the "mucosa-suture," thus avoiding the formation of jejunal ulcers, which give rise to symptoms like that of gastric ulcer. Be sure that the appendix is not affected, or if it is, remove it at the same time of the main operation.

Likewise, examine the gall-bladder for infections and stones, and if either is present, correct same; intestinal stasis, ptosis, and bands should be looked for and corrected if possible.

It should be remembered that, unless the many foci of infection, which may produce the various metastatic lesions, such as gastric ulcer, are thoroughly and permanently removed, gastric and duodenal ulcers will recur, even if they have been *resected and excised.*

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DISCUSSION.

Dr. Seale Harris, Birmingham: Dr. Jackson has given us a splendid paper on a most important and timely subject. I wish that every surgeon and every medical man could have the viewpoint of gastro-enterostomy that Dr. Jackson has, and if so there would surely be fewer operations of gastro-enterostomy that would fail to give relief.

Dr. Jackson stressed the most important points. There is one thing that every surgeon should remember in doing a gastro-enterostomy and in operating on an ulcer of the stomach, and that is that he is not operating upon the cause, like he is in appendicitis, that a gastro-enterostomy does not remove the cause of the disease, and that it simply relieves the symptoms; it gives another opening from the stomach through which the food may pass and allows the regurgitation of the succus entericus into the stomach, thereby giving mucus to coat over the stomach and relieving the pain. It is thought that in ulcer the mucous lining the stomach is less than normal, and therefore the hyperacidity that is present in the majority of cases acts as an irritant to the stomach, thereby causing the pain. After the operation or before the surgeon should seek the cause of the ulcer and endeavor to remove that. Of course, in a good many cases it is a focal infection somewhere in the body, as he has brought out—the teeth and tonsils, and, as Dr. Deaver stresses, the appendix, and also the gall bladder.

Now there is one thing that surgeons should remember, and that is this, that the appendix is frequently the focal infection for ulcer, and that in operating on all cases of chronic appendicitis in which there are no acute manifestations of the disease it is a mistake to make a small incision and not examine the whole abdomen; and there is frequently something also besides the appendix, and that if the incision is extended it will be frequently found that there is an ulcer also; and while he may have removed the cause of it with the appendix, at the same time the ulcer still exists. The removal of the appendix does frequently cure a gastric ulcer. Of that I am absolutely sure. And there are many cases in which the appendix is the cause of the ulcer and the removal of the appendix causes the cure of the ulcer.

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Another important reason why gastro-enterestomy in some cases fails to relieve—and I may state at this particular time that gastro-enterostomy does give relief in the cases in which it is indicated, and in such cases the results are the most brillant of any in surgery—is that the patient is sometimes not properly dieted after the operation. The patient must be taught when he is operated on that he must be careful with his diet for a long time afterwards. The diet after gastro-enterostomy should be much the same as where no operation is performed. The patient should be given a diet list, and must be instructed to follow it for a period, not only of a few weeks, but of months or years.

Another reason for failure of gastro-enterostomy is the lack of preparation before for the operation. I think one of the greatest contributions to medicine that have been made is the work of Fisher on acidosis, and a large number of ulcer cases are in a state of acidosis at the time they are operated on. It is important to build them up and put them on alkalies for some time before the operation and get the patient in good condition before the operation is done.

There is another very important thing in getting good results in that operation. It is well enough to remember that there are recurrences of the symptoms of gastric ulcer and a recrudescence of the inflammatory process, and that during these recrudescences the patient is not in the best condition for the operation; that the thing to do is to tide the patient over that recrudescence and they can be tided over practically always—and build him up, and then in the interval, when there is a lessened chance of infection, to operate.

I am glad to have heard Dr. Jackson's paper. I think we are fortunate to have had it this morning.

Dr. L. C. Morris, Birmingham: Dr. Jackson in his paper has given us the benefit of his large experience in this work. The operation that he describes is the ideal operation for gastro-enterostomy. I hope this article of his will be reprinted and have a wide distribution, because in my judgment he has covered a number of points which I know in the past from personal experience have led to trouble and sometimes to disaster.

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I believe the most prolific source of failure to relieve symptoms after gastro-enterostomy is what has been touched on by Dr. Jackson, and I simply want to emphasize it—that is, the cases in which it is done on neurasthenics, men or women with ptoses of the stomach, intestines and almost invariably of the right kidney, and whose symptoms will simulate almost exactly those of gastric ulcer. The smartest men in the world in passing those cases up surgically are the men at Rochester. I have known a number of such cases to go to Rochester for a gastro-enterostomy, be sent home without it, and I have seen them get well, with the proper treatment of the ptoses and neurotic condition. I believe that is one of the most prolific sources of failure, and I believe we have got to be on the lookout for their cause. Sometimes we will come across positive symptoms and in our enthusiasm we may consent to operate on one of these neurotics, and it will be followed by failure.

Dr. Clarence Hutchinson, Pensacola, Fla.: I think every man here who does any surgery ought to go on record in answer to the questions which Dr. Jackson has asked. These questions are, Is a gastro-enterostomy indicated where a demonstrable lesion is not clearly made out? Is a gastromy justifiable in search of a lesion that cannot be palpated from the outside? I say that every man here that does surgery ought to record his answer, No! No! No!

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THE VALUE TO THE GENERAL PRACTITIONER OF PROPERLY KEPT RECORDS OF BIRTHS AND DEATHS.

GILES W. JONES, M. D., America.

Every well organized corporation keeps an accurate inventory of its liabilities and assets. At the end of each year it can be accurately calculated whether or not the business has been profitable. Further than that it can be ascertained what department, if any, of the organization has been unprofitable, and remedies can be applied. Thus it is with real business, book-keeping, accurate book-keeping is the essential safety valve. Protection of the public health has now become a real business, and the collection of vital statistics is said to be the "book-keeping of humanity."

Vital statistics are the backbone of public health work, without which it would have a flimsy and uncertain existence. To the general practitioner of medicine vital statistics are not only the source of much personal gratification but they are guides or indicators of his degree of success. Thus a physician in the registration area knows from his study of statistics, that for every 100,000 people in his territory there will be 46 cases of typhoid fever per annum, resulting in about four (4) deaths. Of course, this may vary in any one epidemic or in a limited number of cases, but it is the result of the accurate recording of many thousands of cases. Nothing is more uncertain than one human life, yet few things are surer than that 100,000 people of the same age will have an average of just so many years to live. Life insurane companies have made their millions by computing rates on these mortality tables. From a legal viewpoint vital statistics are of infinite value in all European countries and are fast becoming of more value in America. A recorded birth is legal evidence of citizenship and of inheritance. The loss or gain of large fortunes from inheritance by failing to produce or by producing birth certificates, properly recorded are too frequent to countenance examples, but the fact

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that these instances are so rapidly increasing is sufficient reason for the public to demand complete birth registration. Compulsory education laws, child labor laws and many other industrial laws are demanding complete birth registration. A death certificate, properly recorded, is legal evidence of a man's death. Taking for granted that you all agreed with me that the accurate collection and recording of vital statistics is not only worth the cost of labor and money, but is absolutely essential to human process, I want to call your attention to some of the defects and deficiencies in the present statistics which are given us in America. In the miraculous development of this great country with its unlimited resources there was so much to be done that many human problems were forgotten. Our forefathers fought first for freedom and then for self-preservation, and little did they know that they were laying the foundation of the greatest government that exists. And during these early days vital statistics were forgotten and no unified plan for their collection was promulgated. Then came our dual form of government and our central government left it as a duty to each state to collect and record its own vital statistics. Thus chaos began from which we have never fully recovered. Very few states adopted any such laws for many years, and then gradually each state began to work out its own system; everyone a little different from the other, until today most of the states have some form of law under which vital statistics are collected. Some of these laws are excellent. We are convinced that the laws in our own State for the collection of vital statistics, does not get accurate results, but we are more thoroughly convinced that if each county in the State had a full-time health officer and the essential requirements of a burial permit our law should get results. But our system is different from that of other states and the results are incomparable and often misleading. For example the statistics from Mississippi, Alabama, and Massachusetts are incomparable. Each has a different plan and a comparison would be unfair.

In recent years much have been done to overcome this situation by the adoption of the so-called "Model Law" by a great many of the states of the Union. However, many of the states have not yet adopted even a modification of this law and the statistics that we get from the United States as a whole are inaccurate. They are misleading. It appeals to the writer

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that there ought to be a National Bureau for the collection of vital statistics. So accurately does our government record agricultural conditions that wild breaks are caused in Wall Street, our financial center, when these reports are published, and yet no dependable record of our most value crop, that of human beings, is kept.

DISCUSSION.

Dr. H. G. Perry, Montgomery: I am sorry that Dr. Jones' paper did not take another angle. I had hoped that he would confine his remarks to the value of vital statistics to the general practitioner. I happen to know that Dr. Jones is one of the very few doctors in the State who has felt it necessary that he have an elaborate system of records of his births and deaths. A year or two ago, to my great surprise, I got a letter from a doctor that I did not even know, who signed his name "Giles W. Jones," asking what it would cost to get a register such as is used by the county health officers. I wrote him that such a register as that would cost him eight or ten dollars and that it would last two or three doctors several lifetimes. But he said he wanted it and he got one, and I understand he has a reliable record of every confinement case he has attended and of every death that has occurred in his practice, and I suppose he also keeps for his own information a record of the communicable diseases that he attends. I was in hope that he would give you these facts in regard to what he was doing, so as to stimulate each doctor in this Association to do likewise.

When I was practicing medicine, before I reformed and started doing something else, I used a similar record. I made one out of a book that cost me about seventy-five cents, and ruled it properly to conform to the requirements of the birth and death certificate, and I found not only pleasure but great profit in the study of the statistics that I myself compiled. I am sure that it is a good habit for a man to get into. It will enable him not only to be more certain of what he is doing, but he can, by classifying his own cases that he has intimate knowledge of, draw very important conclusions that help him in the practice of medicine all along the line.

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All the statements that the doctor made in his paper I heartily and thoroughly agree with, except that I hardly agree that it is impossible for us to get the statistics of Alabama with the laws we have on the statute books at this time. It is hard to do it because the individual doctor does not come up to a full realization of his duty. But to say it is impossible is not true, because I can point here and there to counties where this matter has been well worked up, not only in the counties where we have full-time health officers, but in the counties where we have honest, energetic men serving as part-time health officers. I see before me a health officer of a rural county in the State who two and a half years ago sent in a report at the end of the month with not a single death out of a population of about 25,000. I ridiculed him so that he wrote me another letter and said he could not report them unless they occurred and they had not occurred. Then I told him that I did not believe that an imaginary line such as divides one county from another would have an effect on the death rate, and that the counties around him were reporting deaths every day and the average deaths reported in those counties came very near to the estimated average death rate. I told him I thought his doctors and he himself were asleep, and asked him to get busy, with the result that he is qualifying very closely to our intra-state registration area for births and deaths.

Dr. A. L. Nourse, Sawyerville: I wish to say from the standpoint of a country practitioner and one who is able to look at it from the standpoint of Dr. Perry today that this proposition of reporting statistics is a very, very difficult one. My only training until recently has been the training of a physician residing in a municipality, where I was compelled to report them or get into serious trouble. Although I never lost any patients, I know a doctor who did lose some. Coming to Hale county and locating in the country, I was at different times called to difficult cases to properly report. One over here, say eight or nine miles, maybe a negro, and I would not hear from him again. He had no telephone or anything of that kind. One of three things had happened; he had gotten well, changed doctors, or else he had become, as the negroes say, "demised." But in my efforts to coöperate with the county health officer I have taken the time to ask questions in the neighborhood, and

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I do not believe that the lack of enforcement of the law in regard to selling coffins is entirely responsible, for I am sorry to say there is an element of carelessness with our practitioners, and not only that, but many a man dies and is buried in a home-made coffin, and I do not believe from my experience as a country practitioner that it is possible without the closest coöperation of all doctors for the county health officers to get accurate reports. The proposition is very difficult.

Not only that, I cannot make a diagnosis off hand of a communicable disease. Neither can any other man, even if he has laboratory facilities. Many a time we are called to see a case and we make a tentative diagnosis of some one of the communicable diseases, say one of the exanthems. The patient gets better or he breaks out and the doctor is not again summoned. Then there is a center of infection and no coöperation. I have no doubt but what men innocently have caused the widespread of communicable diseases. The same thing applies to smallpox. We had it in Hale county a few years ago, and I suppose the same thing exists in many parts of the State. So it is not always because of carelessness on the part of the physician that incomplete statistics exist.

Really complete statistics will be one of the results of the full-time health officers.

Dr. T. A. Casey, Birmingham: I want to emphasize the importance of the paper and to congratulate Dr. Jones on his work. He is doing general practice, as I understand it. I do think it is a very important subject, and at the same time it is hard to write on and it is hard to talk about perhaps. We have had it beaten into us; I had it beaten into me, and could not see it. I see it now.

Another thing that I want to stress is this point: we have had literature from the Government and from the State Health Officer calling attention to the making out of these reports of deaths, and to be accurate and worth anything we have got to state the cause of death. What is it? It is a death certificate, and gives the cause of death if you can. If the doctor doesn't know who does? We say he died from dropsy. Well, what is dropsy? Without taking up your time, I just want to stress that point. It is very important. I had a case that died from typhoid fever; the patient had a perforation, and I didn't

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fill out the death certificate, and somebody said he died of general peritonitis. He did have a general peritonitis, but he died from typhoid fever. Well, if we say hemorrhage, it might be typhoid fever or it might be tuberculosis. We are living in an age when we want to prevent these diseases. The Health Officer is studying and planning, and if we say hemorrhage and peritonitis, he doesn't know what our patient died from.

Dr. W. H. Moon, Goodwater: I just want to say a few words in reference to the diagnosis of cases and making out a case when reports are sent in. I was health officer in our county for two years, and I never took more interest in any practice I ever did than in trying to work out in our county the mortuary and vital statistics, and I think I did a great deal towards it. Now as the doctor said, a great many cases are reported in which the diagnosis is very indefinite as to the cause of death. That is a point that every young doctor ought to learn. Some of you probably graduated in Mobile where I did, and knew old Dr. Gaines. In his advice to the graduating class he used to say: "Gentlemen, when you go to see a patient always find out what is the matter with him. If you cannot find out the first time, give him a little something that won't hurt him and go back and study your books. I once went to see an old lady that was dying, and I rolled her over and percussed and looked her over until I found out what was the matter." Well that means something, but this idea of saying dropsy—that doesn't mean anything at all, because we know that Bright's disease and heart disease and liver disease will produce dropsy. The idea with me was to suggest that the health officer of every county when he gets such reports to let that doctor know that he has not made out his diagnosis properly and if possible help him to make it out. Anyhow criticise him enough to call his attention to it, and by doing that doctors will learn to diagnose cases that they never will running along in a loose, slipshod manner. If ever I have a boy that takes up the practice of medicine I will tell him to keep a record of every case, and keep a record of prescriptions that he makes in special cases. I never did it, but I have been called on three or four years later for the same thing that I had prescribed, and I didn't know any more than they did what it was. It will be worth much to the young doctor to be able

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to refer back to prescriptions. He may meet up with a case that he had treated very successfully three or four years before but he has forgotten what remedies he used. I would insist that all the young doctors keep a close record of all cases they have. Of course, it is not necessary in cases of a minor nature, like biliousness, or autointoxication, as it is called today. I just want to impress this upon all you doctors who are still in active practice; if I were ten years younger I would keep a record of every case of importance, not only for my own benefit, but for the benefit of succeeding generations. If every doctor would do it we would build up a more thorough and systematic plan of practicing medicine. Of course, we have got to learn to make our diagnosis. Let's learn that and then see with what remedies we get good results and keep records.

Dr. B. L. Wyman, Birmingham: I want to endorse what has been said in the paper in reference to the great value of vital statistics. Of course, I realize that members of the Medical Association of Alabama know that this is an important question that we are discussing. Many of us, however, do not appreciate the importance of the collection of accurate and trustworthy statistics. My attention has been quite recently called to the very great value of a birth certificate. I have been practicing medicine in the city of Birmingham thirty years. More than twenty-five years ago I was the family physician of a gentleman now living in the city of New York. Two of his boys were born in Birmingham, one of them, twenty-six years ago. The father, while born in New York state, came of German parentage. I received a letter from him a short time ago requesting me to furnish him properly certified, birth certificates of his two sons, one being twenty-six and the other twenty-four years of age. The father stated in his letter that I was the attending physician at the time of the birth of the sons, that they were both grown and were preparing to go to South America, and desired to have proper credentials. I recalled at once the birth of the sons, but was not quite sure that I had reported them to the Health Department. In those days we were rather careless, and sometimes failed in our duty. I at once called at the office of the health officer at the city hall, where I found our efficient health officer, Dr. Harrington. He directed the registrar to look up the record, and much to my

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relief, the report of the births of the two sons appeared in the record, with the date of each birth and the name of the father and mother. The original certificate was not in evidence, and the names of these two boys did not appear in the record,—this may have been due to an error in copying the certificate, or it may have been due to the fact that the mother had not named the children at the time I made my report. It was still, however, a very valuable record, and my friend was very glad indeed to receive the two certificates incomplete as they were. In this connection, I am reminded of what Dr. Sanders once said to a company of mid-wives in Birmingham, who were attending a meeting there, and receiving instruction in mid-wifery, and also in reference to filling out birth certificates. There were a goodly number of old colored mid-wives present, and the doctor was explaining to them, in that methodical way of his, the proper method of filling out a birth certificate. He said: "Now, the first thing is the name of the baby. Every baby should have a name in advance of its birth, and the mother should provide one, or have one in readiness." An old colored sister sitting over in the corner of the room, whose avoirdupois was somewhere between two hundred and fifty and three hundred pounds, stood up and said: "Dr. Sanders, I want to ask you one question, 'How you gwine know whether the baby is gwine to be a boy or a girl?'" The question at first puzzled our distinguished health officer, but he soon recovered himself and said, "Why, that is easy; the mother should provide two names in advance. One in case the child should prove to be a boy, and one in case it was a girl, so that as soon as the baby is born the name will be fixed."

We all appreciate the value of birth certificates, and it is becoming more and more important that these certificates should be accurate. I am glad to note that we are improving every year in Alabama, in the collection of vital and mortuary statistics, and I trust that the day is not far distant when Alabama will be in the registration area. We have been criticised frequently, on account of our incomplete statistics, and often by men who had no accurate information about what was being done. A recent example was a violent attack which was made by a man from New York with a German name, before the Sociological Congress, which met in Birmingham a short time ago. He was especially severe in criticising our vital statistics.

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In opening his address, and referring to the South, and his trip from Washington to Birmingham, he stated that he saw nothing from the time he left Washington until he reached Birmingham but a few cows on the side of the road. These are the kind of men who are criticising us,—men who are absolutely ignorant of the work which is being done in Alabama. It remains for the doctors of this State to make our statistics complete, and if you gentlemen will do your duty, and report your births as soon as they occur, we will soon become one of the registration states and there will be no further cause for criticism. I believe that there is a need for a standard certificate both for births and deaths. The birth certificate used in this State is too long and too many facts which are not essential have to be given.

Dr. C. A. Mohr, Mobile: I am sorry I did not hear all of the paper, but I wish to say that I am amazed that it is necessary to draw attention to the importance of doctors reporting births. No doctor, no man, no father, no mother has the least right to deprive a child of any of its rights, and when the one upon whom the duty is imposed of reporting its birth fails in this duty, I want to say that the child is robbed of certain civil rights that no man has a right to take from it, and it seems to me that it is time to stop having to talk to the doctors of the State on the importance of this matter. Why, Mr. President, the birth certificate, the evidence as recorded in the Board of Health, may be the only evidence by which a mother may be able to prove the legitimacy of the offspring. Now what is more cruel than to deny a woman that privilege. The reporting of that birth is an act of duty of the doctor who delivers the woman, and if doctors are derelict in that important duty, they are liable to civil suits for damage. There is absolutely no excuse for a doctor failing in this duty. We talk about infant mortality; we talk about the uplift work that somebody else should do. Mr. President, I say that the doctor must be made to do it.

Dr. Perry: Mr. President, if you will recognize me again, I have just received a letter from the truant officer of a district in New York City requesting a copy of the birth certificate of a child in Montgomery 12 or 14 years ago.

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What Dr. Mohr has just said there about the value of the birth certificate is demonstrated by this inquiry that has just come to hand, and such letters come to our office every day either in regard to births or deaths. Now this child evidently wants to go to school in New York, or to demand some rights or privileges that she should have and which can only be granted her by a definite statement of her parentage.

The case that Dr. Wyman spoke of: you all know that the foreign governments are calling in all of their citizens in this country who are subject to military duty. If these two young men could not have proved their American birth in all probability they would have been subject to draft by the German Government. It is too important a matter for any of us to neglect.

Dr. W. P. McAdory, Birmingham: This is a very important subject, as we all realize when we stop to think about it. Doctors are doctors, and some of them are busy. I therefore wish to introduce the following resolution:

Be It Resolved, by this Association, That a proper form of certificate be adopted to furnish the family by the health officer of the county upon the birth of a child.

In other words, I may not report a birth, but if somebody else has reported the birth, then the family is going to jab me. Health officers are rather lenient when we do not report, and I move the adoption of this form of certificate to be furnished the families.

Dr. Stone: I want to tell about something that happened to me a while back. As for myself, I have kept a record of births and deaths ever since I have been practicing. Just a while back I got a letter from a young fellow in Texas who wanted to join the Woodmen of the World. He wanted to know the cause of his father's death, and he had forgotten his father's name. Of course, I could just turn to my record and give him the information.

Dr. A. A. Jackson, Florence: It occurs to me, gentlemen, that there is one feature about the birth certificate itself that is a little deficient, if it could be classed as a deficiency, and that is the first line. It asks for the name of the child, whereas

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it is probable that about seventy-five per cent of us send in our reports before the child is named. If a separate blank were furnished that the physician could give the parents to fill in as soon as a name is given, and the parents either requested to return it to the doctor or to mail it direct to the State Board of Health, the records would thereby be made complete. Few of us have the time to call on the parents of each child subsequent to the christening, and the result is the name is not supplied in the majority of cases.

Dr. E. B. Durrette, Gordo: Suitable blanks are prepared on which names of parents and child (with sex) are furnished each month, by the county health officer, to the congressman in the district, who sends to each a birth certificate properly filled, a dietary list suitable for the child for the first year or more of his life, and other suitable instructions necessary of the care and proper treatment of the child. I am sure that each congressman will be glad to do this as such literature is furnished by the government and there is no pecuniary cost to the congressman, even in sending them out, as they are sent out through his government frank.

Dr. Jones: Dr. Jackson spoke about the certificate going in and the name of the child not being given. That can be easily overcome. I simply tell the mother that if she does not name the child by the first of the month I will name it myself and that that name will go on record and stay there as long as the record lasts. I tell her she has got to name the baby. I haven't had one yet that did not name the baby by the time my report went in.

I did not mean to criticise Dr. Perry when I spoke about this State not getting good results. It is not he, but the doctors. In my county if a midwife attends a woman I simply go to that woman and sign her name to the blank. But in the case of deaths it is impossible unless we have a burial permit.

I thank the gentlemen very much for their discussion.

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THE RELATION OF THE PUBLIC HEALTH LABORATORY TO THE HEALTH OFFICER, THE PHYSICIAN AND THE PUBLIC.

B. L. Arms, M. D., State Bacteriologist, Montgomery.

The laboratory of the State Board of Health of Alabama is an institution founded to assist in maintaining the health of the citizens and preventing the spread of outbreaks of disease.

It should be borne in mind that the laboratory belongs to the people and the Health Department wishes to make it of the greatest possible service to all the citizens of the State. Lest someone who is in perfect health may fail to see how he may be helped let him bear in mind that whatever affects his neighbor affects him also, that every case of preventable disease in his community affects him and broadly that every case of preventable disease in the State affects him. To a group of physicians this is of course perfectly plain, but has the general public yet reached the point where it can see this?

The answer is plainly *no,* and for proof of the correctness of this assertion we have only to look at the appropriation allotted to the State Board of Health to cover the health work of all kinds throughout the State.

The old adage, "Comparisons are odious," may be true, nevertheless it is only by their use that we may judge how far we may be from doing our full duty.

While Alabama ranks as the 16th State in population, it ranks 27th in health appropriation, and this is shown more strikingly by the per capita expenditure for health purposes where it ranks 40th.

Compare the per capita expenditure of our State, 1.11 cents, with the 15.21 cents of Florida, which heads the list, and one can readily see that they are in a position to do many things that are impossible here; for instance the establishment of branch laboratories so that no section of the State is far removed from one of them, making possible more prompt reports, which means so much to the physicians.

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Here let me say that each specimen received at the laboratory is reported on as soon as possible and delay of the report is caused by the failure of the mails and not by delay at the laboratory. Only a short time ago, we received a package on the second day after a letter came in regard to it, and the postmark showed that it was mailed to reach us at the same time as the letter. The same week we had a package that was, according to the postmark, 5 days coming from an adjacent county. Needless to say this matter was taken up with the postal authorities and we trust that no repetition will occur, but if it does and if your reports do not reach you as early as they should, remember that we cannot report on a specimen until it reaches us.

How may the laboratory aid the health officer in the task assigned to him in caring for the public health of his territory, be it county or city, and we may as well include physicians, for each is health officer of the family? There are many ways, as for instance when a case of diphtheria occurs the laboratory can aid in diagnosis, but do not for an instant think that we feel that the laboratory examination is to be waited for when the clinical signs point to the diagnosis of diphtheria, nor is a negative laboratory diagnosis to be taken as conclusive evidence that it is not a case of diphtheria, for it should be considered as but one point in the diagnosis.

Possibly in State work the laboratory can be of greater assistance in the release of patients from quarantine after diphtheria, for the best test of the time when a convalescent is safe to be released is the cultural one and release cultures should be taken from both nose and throat, even when the lesions have been confined to one alone. It is also well to take cultures from those in contact with the case to ascertain if possible if there may be some others who may be potential spreaders of the disease.

In typhoid there are many cases in which the laboratory can be of aid in diagnosis, but the figures for 1916 show that we are called on for only a small percentage of the cases. There were but 1,506 specimens submitted for the diagnosis of typhoid, while there were 694 deaths from this disease reported in the State, and on the accepted death rate of 10 per cent. of the cases, this means nearly 7,000 cases. Consider also that but 38 per cent of the bloods gave a positive reaction

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and it shows that we could be of much greater service if we were called on more often.

This State is in the hookworm area, yet last year but 654 specimens of feces were received. This seems a small number and when you consider that approximately 40 per cent of these were sent by the physicians of the city of Montgomery, it makes the number extremely small.

The laboratory can surely assist in control of tuberculosis to an extent many times greater than it is called on to do. Consideration of the figures for 1916 will bear out this statement, while there were 2,718 deaths reported from this disease, 2,526 of which were of the pulmonary type, but 1,477 sputa were submitted for examination!

Surely the laboratory cannot be of assistance in the individual case unless you use it.

Every physician in the State should have outfits on hand in which to send specimens and requests for them are filled on the day of receipt.

It might be well here to call attention to the fact that the postal regulations forbid the transportation through the mails of infectious material unless in proper containers, and it is our custom when a specimen is received in such forbidden packages to send containers that meet the postal requirements.

In the examination of water supplies it should be borne in mind that the most important examination is the sanitary survey of the source, which will show much more clearly than will the bacteriological examination if the water is safe.

Following is a portion of rule 8 which was adopted at a meeting of the State Committee of Public Health, July 10th, 1916:

"No sample of water will be examined unless collected in accordance with instructions, shipped in containers furnished by the laboratory, and iced in transit."

The reason for this action was that many samples of water reached us in such condition that the examination would show nothing of the true character of the water when taken, on account of the increase in the bacterial content after collection.

It is surprising to find how many samples are improperly sent, even though every box carries printed instructions for packing and shipping, and bearing the statement that no

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samples will be examined unless iced on receipt. Frequently we receive specimens of water from laymen sent by mail and in containers that show by inspection that they were not sterile and sad to relate, we sometimes have the same thing from health officers.

Another portion of the rule, a part of which was quoted above, is as follows:

"Information by letter must be forwarded regarding samples of water to be examined, giving the source of the water and its surroundings." Unless this is done, you will readily see that we cannot interpret the findings.

As an illustration of this, let me relate an incident that occurred in my experience a few years ago in a distant state. An outbreak of typhoid was prevalent in a small town some 80 miles distant and a man—an operator of an ice plant—brought 6 samples of water to the laboratory for examination. He did not wish to say anything about the source of the samples, but on being told that no examination would be made without it, he did so. Five were from various parts of the plant. He still hesitated about the other, but at last he said it was distilled water. Further questioning as to the method of collection brought out the fact that he lowered the bottle well below the surface with his finger over the top of the bottle. As he was telling this, he was watching my face, and before I had a chance to say a word, he said that he saw his mistake and we need not make the examination.

Now this man might have been justified in feeling that the laboratory examination was not carefully done had we gone ahead and made the tests without insisting on knowing the source and methods employed. As it was he left the laboratory with a friendly feeling towards the institution and a willingness to coöperate.

Rabies is so prevalent in this State that it is a great problem and public opinion must be educated to demand safety from the dogs and for the dogs. You can help the State greatly if you will direct public opinion to demand this safety. But few of you come from localities where this is not a vital question, for there are but few counties in the State that have not had rabid animals and all too few have not sent patients to be treated.

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Until the last legislature met there was no dog license law and I venture the assertion that as a consequence there is no state with a greater per capita dog population.

Consider what it costs to feed this great number of dogs, if you will, but also consider, aside from this, the economic loss caused by rabies.

In 1916 412 heads of animals were sent from various parts of the State for examination for rabies. Of these 193 were positive, 193 negative, and 26 were in such condition that no examination was possible. In this work you can help us greatly, for we frequently receive heads that should never have been sent. Remember that the very best negative diagnosis is obtained by keeping the dog alive, and if at the end of a week that dog is alive and shows no symptoms, there is no danger from the bite. Do not kill the animal unless it is absolutely necessary as in the case of a stray dog that has the furious form of the disease and is making a run about the country as they sometimes do; in these cases, it is of course, necessary to kill them.

Only last week we received a head with the statement that the dog had never shown any symptoms of rabies, but he bit a child and they wanted to be sure. By killing the dog they destroyed their best evidence, and this happens all too frequently.

When an animal dies of rabies, the diagnosis is usually simple, but when an animal is killed in the early stages it is sometimes necessary for animals to be inoculated, which means a delay of some three weeks and in the case of a negative, how much more satisfactory to know in a week that there is no danger. Unless the bites are about the face there is no danger in waiting for the death of the animal, which will usually occur within 72 hours.

Last year 294 patients were given the anti-rabic treatment at the laboratory, a great percentage of these were children. Do we not owe it to the children of the State that they be protected from rabid animals? Reference was made above to the economic loss caused by rabies. Following is what one dog cost the people of Lamar county. The dog, a worthless cur that was given away 3 times one day, bit 20 people, and this was the bill:

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Railway fare	$135.86
Board and rooms	187.19
Incidental expenses	9.20
	$332.25
Loss of time by the wage earners	217.25
	$549.50

You will note from the above that the victims of the dog paid out $332.25, the balance of the sum being wages lost, but as surely a loss as money spent for railway fare. There is also one item that cannot be included in terms of dollars and cents. I refer to the mental and physical suffering caused by the bites, and this is shared not only by the victims of the animals, but also by the families of the victims.

The title of this paper speaks of the relation of the laboratory to the public—every examination we make is for the public and it is our desire to serve the public in every possible way. Just as soon as sufficient appropriations are available the State Board of Health will establish branch laboratories in order that more prompt service may be available for the citizens, and the time of the establishment of these depends entirely on the public. It will be readily seen that it will require an increase in the appropriation, but is it not worth while? At present it is necessary to charge fees for some work that is done at the laboratory, but I trust the time will soon come when there will be sufficient appropriation that any public health test may be done free, and when those tests that have to do with individual health alone may not be accepted. Let us work together to this goal, and whenever you think the laboratory can aid you in any way, remember that we deem it a pleasure to be of assistance.

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A DISCUSSION OF THE WORK OF THE STATE BOARD OF HEALTH.

S. W. WELCH, M. D., State Health Officer, Montgomery.

It would be unnecessary for me to discuss the work of the Board prior to the time I took charge of the work in January. That is covered by the annual report of the Board which is now ready for distribution and is in the Health Office ready for any of you who will call for it. It was debated whether or not we would send copies of this annual report out by mail, or have the gentlemen who are in attendance on the Association call and get a copy. We decided that the probabilities were that if you came and got these reports you would probably leave them in Montgomery. We are very anxious for you to read them. So very soon after you reach home you will receive a copy of this annual report of the Board, and we commend it to your careful consideration.

Some years ago the International Health Board made a proposition to the State Board of Alabama to join with them in doing what is known as intensive community work. The International Health Board was to contribute an equal amount of money as that appropriated by the Alabama Board. The Alabama Board did not have money enough to finance its end of the proposition. Recently negotiations with the Board have been reopened, and it was again found that the Alabama Board did not have money enough to finance its end of the proposition. I laid the matter before a benevolent lady in Talladega, and asked her for a sufficient amount of money to begin this work. A day or two after I returned to Montgomery I received a check for five hundred dollars from her, which is now in the bank, and as soon as the appropriations by the counties can be secured we will take up this work. DeKalb county has already appropriated a sufficient amount to begin the work there, and I would just like the gentlemen from the northeastern part of the State in one of the counties Etowah, Morgan, Marshall, Blount, Jackson, or any of those counties contiguous to DeKalb,

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immediately to set in motion some sort of movement that will secure the appropriation of two hundred and fifty dollars a month, so that we can begin the two communities in that section of Alabama. The State Board is ready now to begin the work if we could get one other county in that section of the State. It is very necessary to have two counties contiguous to each other, so that the expenses of the State Health Officer in looking over this work will not be greatly exaggerated. You can readily understand that in looking over this work, which I will have to do, that if one community were in North Alabama and the other in the extreme southern end of the State that the railroad fare and the time taken to inspect the communities separately would reach rather large proportions, whereas if the two counties were contiguous and the two units working in contiguous territory the expense would not be so large. It might be well to state here that $500.00 was contributed by Mr. W. B. Davis, of Fort Payne, which sum will enable us to begin the work in DeKalb county.

Along this same line the question of the appropriation made by the general government was taken up with Surgeon-General Blue. When the general appropriation bill passes Congress it will carry with it an appropriation for rural sanitation. I immediately asked Surgeon-General Blue to allow me to share in this appropriation as soon as that bill passes. He did not say positively that he would do so, but in the diplomatic language of gentlemen in high stations he gave me every assurance that he would. I am anticipating help from that direction. That will be between the counties and the appropriation made by the United States Public Health Service, the function of the Board in the premises being to secure the United States Public Health Service appropriation and surpervise the work when taken up.

Soon after I came to Montgomery I requested the county health officers to forward to the congressmen from their respective districts a list of the names and addresses of the new mothers in their counties. We do not have the means of distributing bulletins that would be very useful to the mothers in the rural districts, teaching the care of the new baby, but it was thought entirely feasible for the congressman to send out under his franking privilege the literature from the United States Public Health Service and the Child Welfare Bureau in

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Washington City. I received replies from all the congressmen, thanking me for the privilege that this would give them of communicating with the new mothers and the new babies of their district.

Efforts are being made to establish all-time health officers in about six counties in the State now. We had thought that at least three counties would have inaugurated the unified health system to be reported at this meeting of the Association, but unfortunately those things hang fire, and the commissioners' courts have not yet appropriated sufficient money to begin the work. We hope, however, to be able to report in the very near future six or seven more counties with all-time health officers.

It has been the effort of the State Board to interest all of the welfare movements in the State in the work that we are doing. Cordial relations have been cultivated with the Alabama branch of the Congress of Mothers. I had the honor to address those ladies in this hall a short time ago, and they gave me a very courteous and respectful hearing. A good many questions were asked along the lines I am discussing with you now, and several of them seemed very much enthused over the idea of having all-time health officers for their respective counties. I was very glad to be so cordially received by this branch of social workers, because I know of no people who are doing more solid work for the care of the infants of the State than this organization.

The Superintendent of the Anti-Tuberculosis League, Dr. Geo. Eaves, has been in constant communication with the department for some weeks. He has a plan on foot that was authorized by the last legislature to establish a municipal hospital for tuberculosis in every municipality in the State. He is enthusiastically prosecuting this work, and the State Board is in hearty sympathy with what he is trying to do. I bespeak for him your hearty coöperation when he comes to your respective counties, and especially to the towns in which you will locate these sanitariums. He has a great deal to say that is worth hearing, and the plan which he has to offer you deserves your hearty support.

The work of the Prison Inspector has come under the supervision of the State Board quite recently. Dr. Dinsmore is in charge of that work now. You all know the cordial relations that have existed between him and the State Board for a num-

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ber of years, and he has written all of the county health officers and the municipal health officers of the State and the county and civil officers of the State apprising them of the fact that this office is now under the State Board of Health. I commend this work to you gentlemen, and hope that when Dr. Dinsmore visits your town you will make his work easy for him.

A good many other things have been projected for the coming year. I hope that I will be able next year to give you a more comprehensive report of the things that have been accomplished that are worth while. We have spent years and years in organizing until we have what to my mind is about as perfect an organization as we can formulate. The time has come to put the organization into operation and do the things which it was organized to accomplish. The original idea in the minds of the founders of the Alabama State Medical Association was to do public health work. I am here, with the aid and assistance of the doctors of Alabama, to bring to the highest degree of development that idea that was in the minds of the original founders of the Association, and so splendidly administered and developed by my distinguished predecessor. Now, gentlemen, if you will give me your assistance, in a few years we will put Alabama on the map on all questions pertaining to public health work. (Applause.)

I notice that the question of rural sanitation was passed. It is one of the most important subjects that can come up for discussion before this body, and I suggest that Dr. Harrington, the all-time health officer of Jefferson county, be requested to address the Association on the subject of rural sanitation.

Dr. Harrington: Mr. President and Gentlemen: I came to Montgomery from Birmingham and Jefferson county to hear a paper on rural sanitation, because I am interested in that subject and I wanted to learn something of the attitude and frame of mind of the State Medical Association and its components on the subject of rural sanitation. The State Health Officer has put the burden of the communication rather than the hearing on my shoulders.

I would like to feel that for a moment we can divest ourselves of any idea of municipal, county or State boundary lines in talking on the subject of rural sanitation, and then bring that subject back home to the State of Alabama, and to the

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counties as it may apply. It is one of the broadest subjects of public health, coequal perhaps in importance with the registration of vital statistics. We must know the conditions under which we live that need curing and then in rural sanitation how to cure them. It is a fact that there are few cities of the size of the cities of the South that are not part, and sometimes as much as fifty per cent., in a rural condition in regard and in respect to condition that produce contagious and infectious diseases.

I have never yet found or heard a definition that practically defines rural sanitation. Sanitation is hygiene in the dictionary, and hygiene is sanitation in the dictionary, and you get no farther than that. It has been defined as the science of living, or the keeping in place of matter that has been put out of place. Now the word filth or dirt has been defined as "matter out of place." And with those simple definitions we can proceed along a very easy line of instruction in rural sanitation, but it depends upon the individual to carry out those instructions. Matter out of place is an insanitary condition. For instance, the filth of a stable is not filth if it is where it belongs, nor is the filth of a toilet filth if it is where it belongs, nor is the dust of the road filth or dirt if it is where it belongs; it is only when this matter is out of place that it becomes an insanitary condition, and it is those insanitary conditions that rural sanitation strives to correct. There is, of course, some deviation from this condition when we understand that the common house fly may breed in stable manure and still not carry that manure out of place, but that fly egg in hatching becomes almost a component part of that stable filth, and in leaving that stable it is matter out of place. In the carrying about on the body and legs of a house fly from the open, insanitary toilet of matter that should be and must remain therein, that material that is carried about becomes matter out of place.

Now the greatest problem we have in rural sanitation and in the rural sections of urban settlements is the prevention of diseases that are carried from some substance to the human body. Rural sanitation does not deal primarily with the prevention of diseases that are contracted by direct contact. The greatest problem in these United States, from Maine to Florida and from the Atlantic to the Pacific, is the proper disposal

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of human waste. In our rural districts it becomes a problem that falls upon the shoulders of the individual resident or house owner or farmer, and in that instant it becomes the duty of the physician who is called upon by that family, who has delivered the babies in that family, who has carried that family through sickness after sickness, it becomes a moral duty upon him, speaking generally, and it becomes an absolute duty under the law in the State of Alabama for every member of the Board of Health to carry into effect measures that are necessary to improve sanitary conditions in the rural districts.

It has been my experience that when we go into the country and talk to a farmer about the disposal and the dangers of material that can be found about his home in a generalized manner, that we have done absolutely no good. We must become specific. We must get down to the most concrete details of what we want done before that farmer can grasp for a minute what we are talking about. I have experienced that condition in some several counties, two of them in this State, in which the farmer as a rule is willing to do, wants to do, but does not know just exactly what to do. I do not believe it does any good to circularize by mail the rural population of any county of any State. It is a detail matter that must be brought home to him, and in bringing it home to him we must have a concrete, matter of fact principle that he can grasp and execute.

There is still some controversy and there always will be some controversy in the minds of sanitarians as to just which is the best method of disposal of waste matter from human bodies. Studies in England from the disposal plants of their sewer system show that the average human adult excretes a little over two pounds from the body per day. In some figures that I compiled in rural sanitary service, it is shown that the average human being of all ages, passed about four ounces of solid matter from the body per day. This shows us that for every twenty-eight homes of the average family there is deposited one ton of human waste matter on the surface of the ground per year, to every square mile. Now that ton of human waste scattered about is not over one area of one square mile: it is near the home, and that is the most vital point we must look after in rural sanitation.

I am not here to find fault, but I am going to make a report that in the seven counties in which I have been employed in

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rural sanitary work, urging upon the responsible individual to consider the problems of rural sanitation and to cure this gross insanitary conditions, that the doctors of the community have been the last ones to do the work. Now it behooves us, I believe, and especially in the State of Alabama, where the best doctors, if not all doctors, are members of the State Board of Health, and of their local boards of health—it behooves us as men with legal as well as moral obligations to set an example to our neighbors.

Last year in Tuscaloosa county, where an intensive survey was made of two small areas only, the question came up before the grand jury after the survey was completed as to why the entire county was not surveyed, and the answer was made, "Because the results of the two intensive surveys were so discouraging that it did not feel really justified in the expenditures to go further." And it was explained that after visiting every home in these two districts and leaving literature and explaining to the head of the family what this meant, and going back a second, a third, and in some instances a fourth time, that we only got a seven per cent. response. The grand jury wanted to know what was the matter, and it was shown that two of these men's homes had been visited and they had not done a thing, and the rest of the grand jury turned to these two men and said, "Before we go further you two had better start something." They went home and constructed sanitary disposal closets. The trouble is that the two classes of people that lead a community, the two that are looked to in all kinds of trouble, the two closest to the homes and the hearts of the people, the doctor and the preacher, those two men are the last, as a rule, while they should be the first, to set the example. I have found also in homes where they have constructed a sanitary privy that the porch is being repaired and the fences put in shape and the house painted and the stables repaired. It is a remarkable fact that you could almost pick out a house that has been sanitarily improved by passing along the road.

Do not get discouraged when we tell you that only seven per cent. have replied to this urgent appeal, because we know that it is a matter of years; it is a matter of changing conditions and habits that have existed for generations, but we must make a start sometime. The first home will have to be fixed sometime. We will have to show that we can get results, as we

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have shown in other communities, in other states, as we have shown in two counties in Alabama. We must show the man that we can show results in the prevention of sickness by the simple expedient of the most important thing in rural sanitation, and when we get the doctors and the people to understand that rural sanitation is really an entity in our lives, then we can expect results.

All of this, however, does not detract from the fact that if we will protect from spread the contents of the toilet or garden house we will protect our water supply, we will protect infection of our garden truck, we will prevent fly infection, we will protect ourselves from the scattering of filth on the feet of chickens, hogs, dogs and cats, we will protect our children and will reduce about sixty per cent as a safe venture, the bowel diseases of infancy, we will reduce ninety-five per cent the prevalence of typhoid fever, we will increase and have shown that we will increase bodily resistance, to the extent of the reduction of the total death rate from all causes. Now is that not worth while?

I might give you, as a matter of interest, figures from Tuscaloosa county and the city of Tuscaloosa, where they had a reduction of typhoid fever 150 cases in 1915 to only 11 cases in 1916, and from 17 deaths to 1 death, and a reduction of seventy-five per cent in the infant death rate from bowel troubles, whereas at the same time the county in the unsurveyed section showed an increase in bowel trouble in infants of seventy-five per cent. That cost the city of Tuscaloosa four thousand dollars. They have completed a sanitary survey of the city and every house within three miles of the city limit, and they have installed there an approved method of sanitary disposal and are scavenging those toilets at a cost of three dollars a year each. That is the main item and the prime item of rural sanitation.

We can improve our wells by encasing them with concrete tops and pumps, we can keep the chickens from running at large, we can keep the hogs in pens, we can clean out the stables every day, and we can do all of these things, but we must keep in mind that *human beings become sick only from the discharges from human beings* and rarely from any extraneous matter. So our rural problem is one of preventing the scatteration of filth so it will not reach the mouths of susceptible persons.

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Dr. H. G. Perry, Montgomery: As I recently made up some figures for an average county on the question of the necessity of rural sanitation as related to all-time health officer work, I wish to give you gentlemen here the findings of a county of twenty thousand in northwest Alabama. Some time ago I was invited to go up to appear before the commissioners' court in the interest of getting an appropriation for full-time health officer work. The main argument for that work is to stress the necessity for rural sanitation. I looked over the records in my department for last year and made an estimate as to the economic loss in that county for one year because of the want of proper sanitation. This is a county where the communicable diseases are not fully reported by any means, neither are the deaths fully reported. The figures showed a loss of ninety-two thousand dollars for the year 1916, whereas by an expenditure of three thousand dollars we would have been in shape to begin to prevent this great loss and outgo and unnecessary tax upon the earning capacity of the people.

I just wanted to give you the figures in a community of twenty thousand people. The meager reports that we had showed a loss of nearly one hundred thousand dollars, and the point that I wish to make is that if a portion can be saved by intensive sanitary work it certainly behooves us all to get busy on that question in our home counties.

Dr. W. W. Harper, Selma: Gentlemen, the people in the rural districts are waking up. I want to repeat to you a story told to me by Dr. Palmer, President of the Alabama School for Girls, at Montevallo. Said he, "A girl came to this school a few years ago whom I knew to be a fine girl, but who struck me as being of the 'butterfly type,' and from whom I did not expect much. But while here she received an inspiration and 'heard the call from out yonder.' After graduating she secured a rural school in Bibb county. After school hours she visited the homes of her patrons. She saw their miserable sanitary environment. She saw the loss of the health from poor cooking and poor housekeeping and she determined to change the condition of affairs. Through the United States Public Health Service she secured plans for a sanitary toilet and with the assistance of Dr. Palmer obtained a working plan for the construction of this toilet. At the end of a year every farmer in

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that community had installed a sanitary toilet. She taught the women how to cook and the girls how to sew, and in two years time changed the appearance of the whole community and its inhabitants." This was accomplished by a frail girl while we strong men sit still and say we can't do anything. Gentlemen, let us get an inspiration and go to work,—there is plenty of work for us. Let us become electric batteries—not dead batteries,—for when a battery is charged everybody knows it is alive.

Not long ago I figured up some Dallas county statistics and found that the preventable diseases cost the county more money than the whole cotton crop brought. Think of that? Diseases that can be prevented costing more money than the entire cotton crop of the county, to say nothing of the suffering, worry and sorrow that are the companions of illness. Senator Ramsdell, in his report as Chairman of the Senate Committee on Public Health said, "Gentlemen, preventable diseases cost this government every year nine hundred million dollars." This means nine dollars per capita. President Elliot wrote and said, "Let's stop talking hogs and horses and cows and talk human beings."

Gentlemen, the unsanitary toilet and the house fly spread preventable diseases by which death receives such a frightful toll of human lives. A sanitary toilet can be installed for five dollars and screens for the house cost less than the average family's drug store bill. Dr. Harrington tells this story: "You can go to a farmer and tell him it will cost five dollars to install a sanitary toilet and he refuses to do it. The next day a lightning rod agent comes along and the man spends fifty dollars for lightning rods." He does not know that while there are only one hundred and fifty persons killed by lightning in one year, many thousands are killed by typhoid fever—which was spread by unsanitary toilets. In Alabama we have eight thousand cases of typhoid fever every year and seven hundred deaths. We may recover the money loss, but those of you who are fathers and who have laid away in yonder cemetery a young boy or girl know that there isn't enough money in the world to assuage the grief or take the crepe from the hat. The best asset a nation has is her children and yet of a hundred babies born into the world, twenty-five of them are in the cemetery before the end of the first year. Why are they there?

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Because the fly has infected them with the germs of diarrhoea. I said to a legislator, "Look here, we should do something to prevent this frightful infant mortality from summer diarrheoeas." His reply was, "That disease only affects negro babies." In less than three months time the only child of that man was laid in its grave—it had become infected from a negro baby on his farm. The Lord said unto Cain, "Where is Abel thy brother?" The blood of these little infants cry to us and we are untrue to ourselves and our profession if we do not make an effort to prevent these unnecessary deaths.

I appeal to you, gentlemen, to enlist the people in the country in the fight against these diseases caused by unsanitary toilets and the fly. One fly in fifty days will produce five hundred pounds of flies. Most of these flies are killed in the fall by a fungus disease. Many are killed by cold weather and if we kill every fly that enters our homes in the early spring, there would be few flies to bother us in the summertime.

Dr. E. V. Caldwell, Huntsville: I do not know any statistics that would have any great bearing on this subject, but I wish to express my appreciation of hearing this discussion here this evening. It has not been very long since I was one of the representatives of the State Board of Health doing this field work in this State, and I have been impressed this evening with one idea, and that is the one that Dr. Harrington expressed when he said that when they went into a community they found that the last man from whom they got a response were the doctors and the ministers. My friends, if the Medical Association of Alabama could get the vision of the possibilities that there are in the rural sanitary work in this State the Association would be enthused, and until we get the vision and enthusiasm we cannot expect to get coöperation from the masses. (Applause.) Furthermore, people all over this State have said to me, "Doctor, we know everything you say is true; we know that we need everything that you suggest, in this community at least in some degree, but we cannot get the people to learn. This is the greatest mistake that you ever made, and it is a stigma on the people of Alabama to say that they are not ready to receive a thing that they say and know is a good thing for the conservation of life in their State or home. Do you mean to tell me that you cannot get the coöperation of the mothers of

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your county if you explain to them that they are doing things that will take from their home the children that they love dearer than their own selves? Did you know if you convince a mother that the life of her child is in jeopardy, that there is an impending danger over her child, that her soul could not rest until it is removed. In my opinion there is a solemn duty resting upon the shoulders of this Association to carry enthusiasm back to our homes to aid those who are sent out by the State Board of Health or who are paid by the county commissioners to do their work, because without the hearty cooperation of the medical profession in the county it cannot be accomplished. We are asking money for a full-time health officer, and yet there is dissension enough in our own midst to prevent that. This must be righted if we expect to get the money, and then we must lend our own coöperation to convince the people after we get it.

Dr. Chapman: This topic of rural sanitation has been most interestingly presented. There is only one point I wish to emphasize. The county is a large field for one worker to cover, inasmuch as the best results may be accomplished only through a house-to-house, or farm-to-farm campaign. This requires considerable effort and time. It seems to me that the best way of reaching the people is through the community organizations, and this usually means the schools. Illustrated lectures for the public, talks to pupils and teachers, and making the school a sanitary institution, will create an interest in matters of public health and sanitation that may produce definite results. Following up these public exercises, there should be as much individual work as possible.

Concerning the question of sanitary closets, I believe the first place to begin your work is in the schools themselves. I have found in Talladega county only two schools removed from city sewers, with any approach to sanitary closets. Several have two closets each, but many have only one. A few have none at all. This I considered my greatest task, and therefore discussed the matter with teachers at their institutes, the boards of control, and the county school board. It was gratifying to learn that recently the county board of education adopted a resolution, requiring every school in the county to install two sanitary closets, according to the specifications of

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the county health officer, before school could open next September. This is a good step in the right direction. Pupils can see the advantage of sanitary closets, and the patrons will observe them, and then I anticipate that many will be installed throughout the county on the farms and in communities.

A strong and effective public health sentiment cannot be aroused in a county in a few months. It requires patience, perseverance, and lots of hard work. You have got to make the people of the rural districts think along the lines of health protection, and appeal to them in terms of life and money. The fight is worthy of the best efforts of any man interested in public welfare.

Dr. J. P. Stewart, Attalla: This is indeed one of the most important questions that this Association could discuss. There is no doubt of that in the world, and the indifference of the public on this question has infected the doctors of Alabama. I was health officer of the little city of Attalla. We had typhoid fever there, and I tried to get the municipal authorities to do something to keep our town cleaned up, to put it in a better sanitary condition. I was elected on the board of aldermen. I had a mayor that I had some influence with, and together we passed an ordinance to put in a sanitary sewer system. It was accomplished, and we provided in that ordinance that everybody in the sewer district should connect all closets with the sewers. We had no way to enforce that ordinance. That was seven years ago, and today there are only four-fifths of the closets in the sewered district connected with the sewers, and we are informed that there is no law in Alabama that would compel those people to connect them. While I was on that board we fought for a betterment of our sanitary condition, and consequently we have not had any typhoid to amount to anything since that time. But after that board passed out the condition began to grow worse. Fortunately a few years after that I was elected mayor of that town on the sanitary proposition—that was my politics. I cleaned that town as clean as this floor was before we assembled here. Consequently we had no typhoid fever for two solid years in that town—not a single case—but we had to do it by strenuous effort and continued vigilance. And that is the way we doctors have got to do. As I said at the outset, the indifference of the people has infected

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the doctors and they are indifferent. You have got to keep right after this question constantly and continuously, because the people do not pay any attention to it, and if we do not, who will? Somebody has got to do it, and we must ask for legislation, and we must ask for appropriations, and we must continue to work along this line, gentlemen, if we want to take care of our people and bring ourselves up to that high standard of cleanliness—cleanliness even—that we should have. If you got off at the town of Attalla and walked along the streets and saw filth scattered all around you would know that the doctors in that town are asleep, because they are the ones who ought to look after it. You want to have a good street-cleaning proposition; rural sanitation begins at the outskirts of your city. You must keep behind it; don't let it die; don't go away from here and say, "That was good talk," but go to doing something in your own town. What we say here today take home with you and say to your people and continue to say it, and work right along on this line; if we want to do something on this line in Alabama, and make it what it should be as a sanitary State, why we have got to go out and work hard.

Dr. T. A. Casey, Birmingham: There is one point I would be glad if Dr. Harrington would bring out in closing. Dr. Harrington is competent to advise us on these matters, and it certainly is an important matter. We have a great many doctors here from different parts of Alabama. You have heard some mighty fine talk.

Now, these sanitary toilets—a great many of the industrial companies around Birmingham have fallen into line, and they are tearing down the old toilets and building new toilets with galvanized tubs, with solutions to disinfect and deodorize, and they carry that off and pay for doing it. There is no odor and no filth. In the cities we have a sanitary system. In the smaller towns they can hire it done. In the rural districts we have a different proposition. I would like Dr. Harrington to explain what would be the best way to dispose of the accumulations in these closets.

Dr. H. G. Perry, Montgomery: I want to make just one suggestion. The best way to teach is by example and not by precept. I have had the good fortune in the last few years to

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visit the homes and the offices probably of more of the rural doctors than any other doctor in the State, and two things have impressed me very much. First, that the ordinary busy country practitioner is usually too busy to pay that attention to the office that he ought to pay to keep it clean and sanitary, as a place to have his patients go, and that has grieved me very much, and with one exception I have yet to see a sanitary privy in the home of any doctor in Alabama who does not live in a town with a sewer system. I spent quite a while in the hookworm work. I preached the question of sanitation. I went around and help clinics in various counties; I went from doctor's house to doctor's house, and we preached and preached about these things. I built my own sanitary closet before I left home, I will tell you that. There was only one doctor that responded to the efforts that we made in that respect, and until we can clear our skirts and come up here at the next meeting and say "that I have built and I maintain a sanitary toilet on my place," I do not think we have got much right to say anything.

Dr. Paul P. Salter, Montgomery: This is such an important subject that I cannot pass it up. I am reminded, first, of an incident that happened when I first got out of school. One of the first cases I was ever called to see was an old man who was related to me, and we called him Uncle John. I had a hurry call from him one afternoon to come to see him. When I got there he said, "Oh, doctor, doctor, I am in pain." I said, "Uncle John, what is the matter." And he said: "You know I have a goat which will dispute the right-away." I said, "Yes." "Well, yesterday he and I met, and as a result you see me in this predicament." I said:, "I am so sorry." "But think, doctor, that I went four long years through the Civil War and wasn't injured, and then to come home and be butted by a billy goat and thus killed."

The point is this: In the present crisis I will assert that there will not be as many lives lost in one year from the bullets as are killed in the United States each year from the unsanitary closets and the flies. Thus we return from the war only to die of avoidable diseases. We have all conceded that the one thing to be accomplished to get rid of this appalling loss of life is to get rid of the source of these preventable diseases, and we can

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get rid of the source of these diseases by putting in sanitary closets. I did not get up to discuss the sanitary closet, because we have all concluded that it is the one thing that rural Alabama now needs more than any other.

I simply got up to tell you what the State Board of Health is trying to do in the way of rural sanitation. We have so far two prime objects which we are trying to carry out. The first is this: in those counties which are able, to establish and maintain an all-time county health officer or a unified system, we are endeavoring to show those in authority that this is the best asset that any county can have. In one of the counties, just for illustration, where we have an all-time health officer, I was talking to the probate judge of that county, and I said to him, "Judge, what do the people really think of their unified health system." He replied thus: "Doctor, if the vote were put to the people whether we should do away with the probate judge or the all-time health officer the probate judge would be without a position. The five men in Alabama today who are doing more towards public health than any other five men in the State are Drs. Grote, of Walker; Chapman, of Talladega; Durrett, of Tuscaloosa; Harrington, of Jefferson, and Justice, of Elmore.

Now there is one other alternative the Board has, and that is if a county is unable to appropriate a sufficient amount to put on an all-time health officer, we have a second proposition which we wish to put before any county which will meet us half way. That is this: through the untiring efforts of the new State Health Officer, Dr. Welch, the International Health Board has been induced to come to Alabama and help us in our sanitation. It is my purpose to tell you of this agreement, hoping some of you will write me to come and help you begin this survey in your county. The proposition is this: for every dollar that any county will spend the Rockefeller Commission will spend one dollar or the State Board of Health will spend one dollar. In other words, for every dollar spent there will be one other spent for the improvement of the sanitation in your county. It will be impossible for the State Board to do this work covering the entire area of the 67 counties. So we have taken this plan: we are to select from each county one, two or three communities, making twenty-five square miles each and consisting of 700 to 1,000 population. For each community

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surveyed an appropriation of $250 will be the county's share. It will require one month to complete the sanitation of each community. Thus for an appropriation of $250 by the county the State Board of Health or the Rockefeller International Commission will spend a like sum, making in all $500.00 spent in each community. What better proposition have I, through the Board, to offer you today? At a recent visit to one of the northeastern counties—DeKalb—I received an appropriation to begin this work there, and I hope that some of the adjoining counties, such as Etowah or Cherokee, will make a like appropriation. If any of the gentlemen from the above-named counties happen to be here, will go home and take it up with the commissioners, and if you are of the opinion that the subject meets with favor, notify the Board, and we will send a man to go before the commissioners and explain the plan in detail. The idea is that these centers will act as examples for the rest of the county and that the sanitation will spread. It acts in another way. We hope to follow up this intensive work with efforts directed towards establishing all-time health officers, and if that had been done following the Rockefeller work on the hookworm there would be in the State not less than fifty all-time health officers. It is our intention to follow in close succession, the intensive rural sanitation and put on all-time health officers in that county. In each county in this State there occur about 270 deaths annually that are absolutely avoidable. Some of the men who have talked here today have given you a rough estimate of just what a life is worth. The lowest estimate is $1,700. Now that is a small sum, but if you consider it in this light: suppose that were my son or my child? Is his life not worth more than $1,700 to you? And each of the five all-time health officers today is saving more than eighty per cent of those 270 avoidable deaths.

Now I want to ask you to help us in carrying out this work. And I, as field director of the State Board of Health, am at your service, and anytime you see fit to call upon the Board for aid we will appreciate it and will give the call an early response.

Dr. W. H. Oates, Mobile: It is with the greatest of pleasure that I have listened to this discussion this afternoon. It is the first time since I have been in this organization that I have seen absolute symptoms of the organization waking up. I

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have heard, year after year, of the beautiful organization, likened many times unto the mogul engine standing at the siding and doing nothing, and I have been convinced, having heard it so frequently, that it has done nothing, and I have in my hands Chapin's report showing statistics from the American Medical Association placing us eighth from the bottom in the United States in efficiency. I have heard symptoms galore this afternoon, but I have heard no treatment discussed. It was my pleasure for the last six years to travel throughout this State in the capacity of State Factory and Prison Inspector and visit all the counties of your State, and I can corroborate the remarks as to the insanitary conditions throughout the whole State as far as the disposal of sewage is concerned. It is our one great disgrace. It was evidenced a few weeks ago in the examination of the cavalry regiment where fifty per cent. of them and more had hookworm, and we are responsible for it. We know the cause, we know the cure, we know the preventive measures necessary to stop it, but we are sitting idly on the siding doing nothing. As surgeon in the United States Army for four years I had sanitation drilled into my head. I had power and authority there to enforce modern sanitation. In the army you command and you are obeyed. A nuisance is abated at your command. Garbage around the kitchen must be removed at your command. The army surgeons are responsible for the health of his troops, and should be held responsible for it because he has the power. But, gentlemen, unfortunately the health officers of our State haven't that power. They have the intellect, they have the education, they have the ability, but they are really void of power. Another potent whip which we need is money. The perfection which this Association has exhibited in lobbying in the legislature has led me to come to the conclusion that it is nearly perfect as a machine, but cannot we use it to get more money to save the lives of the people in Alabama than they are paying or paid at the last legislature for hogs? The last legislature spent $25,000 for the hog serum plant at Auburn, and they spent $25,000 for public health in Alabama, so we are on a parity with the hog. "Unless we do something I predict that this organization is going down, but under its present head I predict it is going up. Can't we get together and organize a full lobby if necessary,

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go to any honorable means to conserve the lives of the people in this State?

Chapin, the man sent out by the American Medical Association to make a survey of the various boards of health in the United States, classes Alabama 105 out of a possible 1,000, which would be perfect. New York gets 760 odd, and Massachusetts leads the United States with 775. We get 105. Seven other states, Arizona, South Carolina, Oklahoma and several others, are lower in the scale than we are. Now, I disagree with the man on some of his estimates of our efficiency and inefficiency. He is lower in vital and mortuary statistics than I know we should be, knowing Dr. Perry and his good work. But we are way down yonder. It makes we think of Bobby Burns' lines—

> "O, wad some power the gifte gi'e us
> To see ourselves as ithers see us!
> 'Twould from many a blunder free us
> And foolish notion."

We have got to get the notion out of our heads that we are doing anything. We are not doing anything. Tuscaloosa, yes; Talladega, yes; Walker, yes; Birmingham, starting. But what are four out of sixty-seven.

I want to leave one idea with you to take back home on disease prevention. Get the coöperation, aid and assistance of the women of your communities. You will find organizations in your communities, women's clubs of various kinds. If you will go to those women and lecture to them on disease causation and disease prevention and get their coöperation, you cannot stop short of a landslide on the prevention of diseases, which is necessary in this State.

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VALUE AND LIMITATIONS OF BLOOD EXAMINATIONS.

JOHN A. LANFORD, M. D., New Orleans, La.

A discussion of this subject must necessarily be brief because of its extensiveness and the many kinds of blood examinations and if I slight certain phases of it, the explanation is that in a fifteen minutes talk something must be neglected.

I can well say without fear of contradiction that the advance of medicine has followed the information obtained from blood examinations and at the present time a vast majority of the diseases of mankind produce some characteristic change which is recognized either as an important symptom or a positive diagnostic sign.

A study of the condition of the blood gives us more valuable and varied information than can be obtained by an examination of any other tissue or fluid of the body and should be made a routine in all cases of fever whether or not associated with pain, as well as in all chronic conditions with vague and indefinite objective and subjective symptoms.

Examinations of the blood will give us diagnostic and prognostic information which certainly has an important bearing on treatment. For the purpose of this paper I shall consider the subject chiefly from the standpoint of diagnosis and will divide it into three divisions: First, a study of the cellular elements of the blood, which include variations in their number, their proportion to each other, and their content. Second, a study of the serum content of the blood with reference to certain biological properties, as immune bodies, and changes from the normal in its chemical composition. Third, a consideration of parasitic invasion of the blood.

Cellular Elements: A study of the cellular elements of the blood will include an enumeration of the total number of red and white cells and their variation from the normal and the information thus obtained enables us to draw certain definite conclusions.

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A variation from the normal number or erythrocytes together with changes in their structure and color content, suggests at once a pathological state of the circulation per se or of the generating center of the haemopoetic system. When there is a great diminution in the number of red cells and marked variation in size, shape and staining reaction together with numbers of normoblasts with high haemoglobin content, the picture suggests primary anemia, while a similar picture with a low color index is noted secondary to many pathological conditions in the body other than those referable to grave bone marrow changes, for example hemorrhage, carcinoma, intestinal parasites, etc. On the other hand, chlorosis with its relatively large number of erythocytes and their low haemoglobin content, distinguishes this condition from those above mentioned.

The information derived from the study of the white cells is more valuable clinically for the reason that there is scarcely any pathological condition of the body as a whole which does not affect in some way these important elements of circulation.

An enumeration of the white cells together with their relative percentage is probably the most common form of blood examination and is especially useful in the diagnosis of acute suppurative processes, for example, in cases with pain in the abdomen, whether in the inguinal region or elsewhere, if there is an increase in the number above 10,000, together with a high neutrophile count (80 per cent or more), it is evidence of active inflammatory reaction and surgical interference is indicated. Such a picture of the blood is obtained in appendicitis, otitis media, meningitis, pyelitis, cholecystitis and all conditions associated with local or general pyogenic infections. In a study of an acute illness associated with fever and a high leucocytic count, it is important that the surgeon search for the focus of infection. This may be found in the kidneys or the prostate or even in the lungs, without the manifestation of any local pain and is a constant finding in acute ulcerative endocarditis and pneumonia. A comparison of the cell count with the clinical findings, enables him to determine whether an operation is urgent or not.

In patients suffering with chronic diseases of the heart, lungs or kidneys, who are regarded as bad surgical risks and should they be so unfortunate as to develop a localized internal acute

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inflammatory process, a study of the white cells often enables us to determine the prognosis if operation is postponed. In such cases it is a fact that where there is a total number of cells above 15,000 together with a differential neutrophile percentage of 85, we can with assurance inform them that their body forces are capable of caring for the infection. However, the blood should be studied at intervals of six or eight hours to note any change in the white cell count and should a lessening either in the number or percentage of the neutrophiles be noted, it is evidence of a decline of the body forces and the prognosis becomes more unfavorable.

There are two conditions characterized by an increased number of white cells, in neither of which is fever an important symptom. I refer here to lymphatic and spleno-myelogenous leukemia. One is characterized by a large number of small white cells (lymphocytes), there being at times as many as 100,000 per cubic m. m., and the other by a large number of embryonal leucocytes or myelocytes, they reaching sometimes as many as 1,500,000 per cubic m. m. These diseases are positively diagnosed by the blood findings. In the absence of any proven etiology, it is the concensus of opinion among pathologists that these two grave conditions are probably neoplasms; one, namely, lymphatic leukemia, being primary in the lymph-adenomatous tissue, and the other myeloid leukemia, being primary in the bone marrow, and both metastasizing to the blood stream.

Certain writers place considerable stress upon an increased percentage of the lymphocytes of the blood and claim diagnostic importance for them in suspected syphilis and tuberculosis, but it is not universally held that these findings justify such conclusions. It is a fact, however, that in whooping cough and influenzal infections, there is an increase both in the total and percentage of the lymphocytes, but blood cell findings do not serve to differentiate these two conditions.

While considering the variations from the normal in the total white cell count of the blood, it is important to bear in mind that a few diseases show a diminution in the number of white cells. Chief among these are malaria and typhoid fever. It is practically impossible to draw conclusions from the blood in these conditions, although when associated with a proportionate increase in the endothelial leucocytes, it is very suggestive of

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malaria. There is one disease, namely, splenic anemia, which is characterized by a marked diminution of the white blood cells; they sometimes being as low as 1,000 per cubic m. m., the red cells show a similar decrease.

When studying blood smears, if a large percentage of eosinophiles (above 4 per cent) is noted, it is suggestive evidence of irritation of some of the epithelial structures of the body, especially, the skin and alimentary tract, and entitles the patient to an examination of the stools for intestinal parasites, especially hookworms, and the skin for some form of dermatitis. Bronchial asthma and trichiniasis are also associated with an eosinophilia. I have recently seen a case with 60 per cent of these cells which was negative for all the above conditions and it was our opinion that some proteid substance was undergoing puterefaction changes in the intestines, which stimulated an excessive eosinophile production.

Before dismissing the discussion of the cellular elements of the blood, it might be well to say something of the blood platelets. These little structures are so fragile and difficult of examination, that at the present time we have been unable to obtain any information of diagnostic importance. However, it is a fact that they are increased in conditions associated with suppuration and the anemias of the secondary variety, while they are decreased in diseases primarily involving the bone marrow. It is probable that some time in the future workers will discover changes which are diagnostic.

Serum Examinations: Within recent years, examination of the blood serum has been very rapidly developed and at the present time a large number of diseases are diagnosed by this means. These examinations are of two distinct types, one in which a search is made for certain immune substances, such as agglutinins, complement binding bodies, etc., and the other, in which the chemical composition of the serum is determined, as in blood sugar and blood urea.

Among the immune substances which are produced in the human body as a result of an infectious process, there are three distinct types recognized, all of which are utilized to a greater or less extent in the diagnosis of infections. Immune bodies of the first order are those which combining directly with the toxin of the infecting agent neutralizes it; examples of these are diphtheria and tetanus antitoxins. The Schick cutaneous

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reaction is based on the presence of this type of immune substances and in practice is used to determine the presence or absence of immunity to the diphtheria bacillus. Immune bodies of the second order possess an action resembling those of a ferment and in addition acts on the invading organism through its combining property, as the agglutinins, precipitins, opsonins. Immune bodies of the third order have two combining groups; one for anchoring the substance instrumental in their production, as bacterial cells, corpuscles, etc., and the other for anchoring the real destroying agent, namely, complement, which is normally present in the blood, and through this substance causes a destruction of the invading bacteria or foreign proteid material. Such immune bodies are lytic substances and are spoken of as bacteriolysins, hymolysins, etc. Members of these three groups are utilized to determine the presence or absence of pathological conditions, and it may be stated that of all blood examinations, they are by far the most important since they are specific.

The more commonly used serum tests are those for detecting agglutinins and complement binding substances. The agglutinin test is applied at the present time to detect the presence of special varieties of organisms, but its first period of usefulness was shortly following the description of the test as applied by Widal in the diagnosis of typhoid fever and is to this day spoken of as the Widal reaction. By means of this test, we are able to distinguish typhoid fever from similar types of fever, as para-typhoid (alpha and beta) and other intestinal infections. However, it is useful in the diagnosis of typhoid fever only after the seventh day of illness, because before that time the body has not produced demonstrable immune substances and the test is therefore more of corroborative value than diagnostic importance. It should be made with a suspension of typhoid bacilli which are living, as only in this way do we get an absolutely reliable result. The use of a heavy suspension of dead typhoid bacilli which is to be poured on a blood smear and the resulting clumping of the bacteria noted, as advocated by some of the recent writers, should not be considered as a substitute for the test made with living organisms and at best if positive is only suggestive evidence of infection. The principle of the agglutination test has been applied to the diagnosis of tuberculosis and influenza, and while the information gained is at

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times valuable, it is also at times disappointing, and these tests have never come into general use. This test, however, finds a useful field in the diagnosis of bacillary dysentery in children and is quite an important aid in separating this condition from others assoicated with a troublesome diarrhoea.

Hemagglutinins: This test is of great value in determining the suitability of bloods for transfusion purposes and only those bloods should be used for this purpose which show no clumping or dissolution of the cells, either of the recipient or the donor, by the other serum.

The complement fixation test is the most generally used of all the serum tests. The principle of this test was discovered by Bordet and Gengou, who determined that complement when mixed with an antigen in the presence of its specific antibody will be fixed, and sensitized red blood cells added as an indicator, would remain unchanged. It was applied by Wassermann and others to the diagnosis of syphilis and for this condition is known as the Wassermann Test. There are numerous modifications which are in many instances more valuable than the original technic as described by Wassermann. The principle of this test has been applied to the diagnosis of gonorrheal infections, whooping cough and quite recently tuberculosis, and it may be stated that it can be applied for the detection of any infectious disease where the etiology is known. The only difference being the use of the specific antigen, the technic being similar.

The Wassermann test for syphilis is looked upon as very reliable evidence of infection with treponema pallida. A positive reaction obtained by a reliable serologist to my mind is diagnostic evidence of syphilic infection, even though the patient denies all knowledge of an initial lesion. Unfortunately, a negative Wassermann reaction does not warrant us in dismissing syphilis from a suspected case, and this result like negative results in other conditions, should not be considered proof of the absence of infection. It is important, however, to obtain a negative Wassermann reaction in patients who are known to have been infected and who have been under vigorous treatment. It is well in these cases that the test be repeated at frequent intervals over a period of several years and after provocative administration of potassium idodide or a small dose of salvarsan.

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The complement fixation test in its application to Neisserian infection, has not met with general use, probably because of the ease with which these infections are usually diagnosed. However, there are cases of suspected gonorrheal arthritis or endocarditis when a complement fixation test is of great importance, and a positive result indicates a focus of living gonococci. It should be applied to all cases of posterior urethritis and a negative result obtained before a patient is pronounced cured.

Within the past few years, this test has been applied to the diagnosis of whooping cough and it has proven a very valuable aid to the earlier diagnosis of this condition. It gives positive information before the clinical evidence is diagnostic. This is a very important fact, as it enables the physician to execute treatment at an early date, and also to isolate the case.

In the past eighteen months laboratory workers have shown that the application of this test in the diagnosis of tuberculous infections offers positive information and in the active and incipient cases and also the early latent cases a positive fixation result is obtained in over 90 per cent examined. This information offers an early diagnosis to those deep-seated and incipient cases in which the clinical findings are not absolutely certain and enable the physician to institute proper hygienic and therapeutic measures early.

It is an unfortunate fact that many very important conditions are not associated with a characteristic change in the blood either in the cell proportion or the serum content which enables us to arrive at a definite diagnosis. The principal diseases of this group are the malignant tumors, carcinomata, sarcomata, non-bacterial diseases of the nervous system, as dementia precox and pregnancy. The effort of Abderhalden was along this line and although he devised a test which was heralded as a positive aid in the diagnosis of pregnancy either intra or extra uterine, his results have not been confirmed by the best workers and the test has not generally been accepted. The principle of the Abderhalden test is theoretically sound, but its present application is faulty; however, it is probably only a question of time before his test will be made of value.

Chemical Composition: For many years physiologists have been able to determine the variation from the normal of the chemical content of the blood serum, but only recently have

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these tests been simplified so that their performance could be carried out in the small clinical laboratory, and at the present time it is fairly easy to determine the functionating capacity of the kidneys by estimating the amount of urea in the blood and the amount of non-coagulable nitrogen in the same fluid. The information thus obtained is of vast importance in the study of diseases of the kidney and determining the functional capacity of those organs in cases of nephritis.

The study of the chemical composition of the blood serum has advanced quite rapidly within the last few years and at the present time we have tests available for the determination of the various products of metabolism, such as uric acid, urea, crenatinin and other purin bodies, as well as the sugar content of the blood. Most of these are rather too complicated for the clinical laboratory, but the determination of the blood urea and total non proteid nitrogen of the serum is sufficiently simple to be carried out in the ordinary laboratory.

The estimation of the blood sugar content is a common study in diabetic patients and offers great information as to effect of the diet treatment of this disease.

Workers at the present time are studying the carbon-dioxide tension of the blood in conjunction with that of the expired air in certain diseases. Their findings have a bearing on the prognosis of conditions, but offer little information from a diagnostic standpoint.

This brings us to a study of the blood from the standpoint of hematogenous micro-organisms. These examinations are made in two ways by smear and culture, both of which are very important and offer valuable information. First, is an examination of stained blood smears. By this means we are able to recognize certain infectious organisms protozoan in type, such as malaria, filaria and trypanosomiasis. The examination for malaria infection is by far the most common and in the majority of instances shows the presence of these protozoan organisms attached to the red blood cells. Occasionally these bodies are present in large numbers and are therefore easily found, but at times in chronic infections and some cases of estivo-autumnal types, it is very difficult to find them in the ordinary way. We then resort to the use of a thick film and sometimes to the centrifuging of the blood. The finding of these organisms is positive diagnosis of infection, although a negative re-

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sult is not evidence of the absence of these parasites from the circulating blood.

The second method of examining blood for invading organisms is that of culture by which we are able to demonstrate the presence of bacteria in the circulation. This method is applicable to all cases associated with a bacteriaemia whether produced by the ordinary pyogenic organisms or those associated with a peculiar type of fever. The principal types of speticaemia are those produced by the staphylococcus, strepococcus, pneumococcus, B. coli and gonococcus. Among the other types of diseases are typhus and typhoid fevers.

The finding of the specific organisms enables us to make a definite diagnosis of these diseases. Typhoid fever can be diagnosed much earlier by means of a blood culture than in any other way. In a large proportion of cases within the first week of the disease, the typhoid bacilli are detected by culture in the circulation. As the body produces immune substances the proportion of positive cultures becomes less and in the second and subsequent weeks this procedure does not offer as much diagnostic aid as does the demonstration of the immune substances by means of the agglutination test or Widal reaction.

While it is not within the domain of practice, it may not be amiss to mention the fact that blood examinations are at times of vast importance in certain medico-legal cases where the nature and type of blood stains are in question. By means of the precipitin test we are able to determine positively from what animal a given stain is derived.

I realize that the above is only a resume of the subject and I have only lightly taken up the various divisions. However, it is possible that I have shown that the examinations of the blood are becoming more common as our knowledge increases and the limitations will not be reached until man has lost his energy and his desire to help his fellowman.

I would like to impress upon the profession the importance of blood examinations and I would also like to add that while in many cases the blood findings are absolutely diagnostic, still it must not be supposed that they can take the place of clinical examinations and findings, as only by the closest corroboration between the clinician and the laboratory worker will the benefits to the patient be of the highest type.

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BLOOD EXAMINATION.

1. *Cellular*:
   - Erythrocytes
     - Total number
     - Percentage of coloring matter
     - Variation in size, shape and staining reaction
       - Primary anemia
       - Secondary anemia
       - Chlorosis
   - White Cells (Leucocytes and Lymphocytes)
     - Total number
     - Differential count
       - Neutrophilic increase
       - Lymphocytic increase
         - Lymphatic leukemia
         - Whooping cough
         - Influenza
         - Syphilis
         - Tuberculosis
       - Eosinophile increase
         - Intestinal parasites
         - Asthma
         - Skin diseases
         - Intestinal toxemia
       - Mononuclear (endothelial cells) increase
         - Malaria
         - Typhoid
       - Myelocytes
         - Myelogenous leukemia

2. *Serum*:
   - Immune substances
     - Agglutinins
       - Typhoid and allied organisms
       - Dysentery and allied organisms
       - Influenza
       - Tuberculosis
     - Complement Fixation Substances
       - Syphilis
       - Gonorrhea

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Tuberculosis
Whooping cough
Chemical Composition
Blood sugar
Protein nitrogen
Non protein nitrogen

3. *Extraneous Invaders*:
Protozoa
Malaria
Filaria
Trypanosomes
Bacteria
Typhosus
Coli
Streptococci
Pneumococci
Gonococci
Treponema Pallida
Staphylococci

DISCUSSION.

Dr. J. S. Turbeville, Century, Fla.: I hesitate to even try to discuss this paper. However, I am going to discuss it strictly from the standpoint of the general practitioner, and try to emphasize some of the things the doctor brought out. I wish to express my appreciation of the paper.

The blood examination is at times worth everything. That is particularly true in febrile conditions. I would like to emphasize that, because in the country where you have a lot of fevers to my mind the blood examination for the presence of malaria, carefully conducted, will eliminate malaria in a febrile condition—understand, gentlemen, I am not talking about chronic malaria; I am talking about acute febrile malaria. What does that mean? That puts us on our guard right there against one of the worst infections we have, and that is typhoid fever. I think in the first stage of any febrile condition if a man will make a careful blood examination for malaria and eliminate malaria, that puts him on his guard, and he can begin immediately his prophylaxis for typhoid fever. If we did but just

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that one thing in general practice we would do the greatest good to our community we can think of. If you begin the first days your prophylactic measures against the spread of typhoid fever you will not need much vaccination, though this is not a talk against vaccination. This will prevent typhoid getting into the whole family. It has been my rule for a number of years in the practice of medicine, that if I cannot find malarial organisms, I tell my people that I cannot tell what it is yet, but I begin protection of the family right here. That is a practical point for that particular phase.

Now there is one point where we are often handicapped in blood examinations for malaria. The people have gotten in the habit of taking quinine, and a good dosing with quinine before you get your blood makes it very difficult to find malarial organisms, and you frequently cannot find them where they are present. Of course, the doctor has mentioned cases where you cannot find them anyway. That is especially true in cases that have taken quinine. In these cases I would not advocate that a man wait very long to give his quinine because his patient might suffer as a consequence of waiting, but I certainly would try to make the diagnosis if possible.

The doctor has called attention to septic infection. You can conduct your malaria examination and the examination for septic infection at the same time. You can make a differential blood count while you are looking for your malarial organisms. Remember that malarial and septic infections present an opposite picture. In malaria you have a relatively high lymphocyte count and in septic infections a relatively high polymorphonuclear count.

The doctor spoke about the serum reactions. I have had very little experience with the serum reactions, because the country practitioner cannot do them, but I use the laboratory on all these cases. Seven to ten days after I get a febrile patient I submit specimens of the blood for a Widal reaction.

I will just touch on the hemoglobin, and that is practical to all of us. But I wish to state that there are some pitfalls in the hemoglobin estimation. I once had a patient with cancer of the stomach, and it was so diagnosed, and I had a consultant who said it probably was not cancer of the stomach because of the high hemogloblin. The patient had never had a hemorrhage, had never had pain, never much indigestion, conse-

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quently he had had nothing to produce anemia. So we had no right to draw that conclusion.

Now, pernicious anemia—I think a man who does much blood work will begin to suspect pernicious anemia from an ordinary blood smear. From any of the malaria stains you can get a suspicion of pernicious malaria. Remember, gentlemen, it takes more careful study to work it out.

I would warn against sending a blood smear to the laboratory and saying nothing about it. Let the doctor know what you wish, and he will make a more careful examination along that line. I do not believe that the average routine blood examination is worth nearly as much as to make a specific examination for something you have in mind.

Leukomias—of course, those are all cytologic diagnoses.

I have spoken of some of the limitations in examinations for malaria. When investigating deep pus infections, there is something right here. I remember doing a foolish thing. I spent an hour once examining a man's blood whom I suspected of appendicitis and I carefully worked out my blood picture, and when I got through I told the doctor. I says, "Well, we have done a foolish thing. You see that boil on the man's lip." He had a furuncle on his lip. So, right there, if we had noticed that we could have saved ourselves some work. The man did have appendicitis, but we could not have told anything about it so far as the blood picture went.

The doctor spoke of influenza having a lymphocytosis. I just wish to point out something you can gather right here as regards complications. Most pneumonias have a polymorphonuclear leucocytosis; so in your cases of influenza if you have a polymorphonuclear leucocytosis, why it is time to suspect a complication, whether it is tangible or not, it is time to suspect it and begin to look for it.

Now, I would warn against negative findings. I know men all over your State and all over every state that take most any negative laboratory finding as negating the presence of that particular disease. That is especially true of sputum examinations for tubercle bacilli. You have no idea the doctors who think that a negative finding negatives the presence of that disease. Those examinations should be repeated, and, of course, constant repetition with negative results means something.

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Now the interpretations of laboratory findings—I believe that I have a little quarrel with the laboratory men about the interpretation of their findings. I believe it is their duty to interpret their findings to the average man, because there are a lot of us who do not know what certain things mean. I have had to ask questions myself, and I have had other people ask me questions about the reports they got. So I would ask the laboratory men to give us some idea of what it means. Of course, the clinician's first duty is to submit a skeleton of the clinical history of the case to the laboratory man.

Dr. W. W. Harper, Selma: Dr. Lanford's paper is very valuable. A practical point that struck me is this: The importance of blood examination in fevers with obscure causes. The clinical symptoms of typhoid in the early stage are so similar to those of other fevers that it is very hard sometimes to make a diagnosis. A Widal is, of course, useless until about the 8th day of the disease, and as the most dangerous period of typhoid is in the beginning, it behooves us to use every means of identifying the disease as early as possible. A smear will in most cases give you an idea of what you are dealing with. It will indicate a leucocytosis or a leucopenia. If there is an apparent leucocytosis, typhoid and malaria may be ruled out, and one may feel certain that "there is pus somewhere." If the smear shows a decrease in leucocytes, look out for typhoid or malaria. A differential gives valuable information. If it shows an absence of eosinophiles,—this with a decrease in leucocytes, would suggest the wisdom of "typhoid precautions." In cases of malaria a smear would show a leucopenia, an increase in endothelials, stippling and polychromatophilia. These findings would make you strongly suspect malaria even after quinine has been administered, which, of course, drives the parasites out of peripheral circulation.

In cases of infection caused by a pus producing organism a total leucocyte count and differential give a point on prognosis, —which is this: An increase of neutrophiles—say about 90 per cent, and a total leucocyte count of 8,000 or 10,000, means a severe infection and poor resistance. Of course a similar picture may be found during the first few hours of illness in those cases of severe, virulent infection before the leucocytes

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have had time to respond to the call. A later examination will, in favorable cases, show a marked increase in white cells. A high percentage of neutrophiles and a low total leucocyte count in infections of some standing usually mean a funeral. If a patient comes in with evidence of some acute abdominal condition and the blood examination shows an increase of neutrophiles—say 90 per cent, and a low leucocyte count—say 6,000 or 8,000, do not operate,—the patient is probably going to die, and the case would be one against surgery. If possible, tide him over and then operate later after he gets over the acute attack. If, on the other hand, the patient shows a large increase in leucocytes with a mild increase in neutrophiles, he has good resistance with mild infection,—the patient would probably make a quick recovery after an operation. In other words, the neutrophiles are an index to the virulence of the infection, and the patient would probably make a quick recovery after an operation. In other words, the neutrophiles are an index to the virulence of the infection, and the leucocytes are an index to the resistance.

Dr. W. A. Sellers, Montgomery: I consider that the personal equation is of the greatest importance in determining the value of blood examinations. In the hands of one man it might be worth everything, in another it might not be worth anything. There is one point, however, I wish to call attention to. In the presence of a virulent infection in some cases you find practically no leucocytosis in the peripheral blood. You have a chemotaxis, all of the leucocytes having gone to the seat of involvement.

Dr. W. R. Jackson, Mobile: I have a question bearing on surgery I would like to ask our hematologists. Suppose a man had his leg crushed and the next morning he had an acute pain in his appendiceal region, and our hematologists make a blood count and find a leucocytosis, a polymorphonuclear or neutrophile, am I supposed to operate for the appendicitis, or would he think the appendicitis problematic and the crushing trauma the cause? In other words, will trauma, will fright, will excitement, will an operation, will anesthesia cause as much leucocytosis as a pyogenic focus? That is what I want to know.

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Dr. Lanford: I wish to thank the gentlemen for the interest they have taken in this paper and for the discussion of the paper. There are just two points I wish to mention, hardly within the domain of my paper, so that I could not mention them at that time. A great many of you are not equipped to do your own laboratory work. You send it to the men you have confidence in, some of you send it to the State Bacteriologist. I want to say that when you make your blood smears for examination do not put a drop of blood on the end of the slide and expect the laboratory worker to tell you whether it is malaria or not. Everybody can make some sort of a blood smear on a slide. There are various methods. You might use another slide to smear it over, you might use a toothpick or a piece of cigarette paper. But do not leave a small drop of blood on the end of a slide. The results are bound to be negative if you do. If you want the Widal reaction made, the laboratory worker can make that from a smear as well as from a drop of blood. Discontinue putting a drop of blood on the end of a slide. Smear it over. Do not send just one smear to make one test, but send several.

With reference to the question which Dr. Jackson asked, I will say that I do not consider that either anesthesia or trauma can give you as high a leucocytosis as a pyogenic infection. I do not think the laboratory worker alone, with the facts that he has, in every case can tell whether the leucocytosis is due to a pyogenic infection or some of the other conditions mentioned, but that the clinician will have to follow up his clinical findings and then compare them with the laboratory findings and draw his conclusions, because they will not be the same in every case.

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CHLOROSIS.

IRBY C. BATES, M. D., Taylor.

Chlorosis may be defined as a form of anemia in which there is an excessive reduction of the amount of hemoglobin over that of the reduction of the blood corpuscles; usually occurring in girls about the age of puberty, and often associated with imperfect development of the genitalia, and sometimes of the heart and blood-vessels.

Etiology.—The causes of chlorosis are not definitely known, but among those most generally accepted may be mentioned the following: faulty hygiene, tight lacing, overwork, mental anxiety, improper food, constipation, and family predisposition, indoor work and lack of sunlight. It seems to be more prevalent in those who have recently changed from a warm to a colder climate. The majority of cases occur between the ages of fourteen and twenty-one. The association of gastro-intestinal derangement gives rise to the opinion of some that it is an auto-intoxication. Handmann believes that the association of chlorosis and thyroid enlargement in twenty-five out of forty-four of his cases cannot be a coincidence.

Pathology.—There is a hypoplasia of the aorta and arteries, and a defective development of the uterus and ovaries has been found in many cases. The heart is often in a condition of hypertrophy with dilatation.

Blood-findings.—The color index is low. The hemoglobin running from 12 to 75 per cent, its average being about 45 per cent. The red blood corpuscles are not proportionately decreased, often being nearly normal in number. Their average size is a little smaller than normal. The red blood corpuscles show a great loss in coloring matter. The leukocytes are not increased. The specific gravity of the blood is decreased.

Symptoms.—The subjects presents a characteristic pallor, which in some cases assume a transparent waxy, greenish hue. They are usually well nourished. There is no loss of flesh and these subjects often appear somewhat stout.

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There is marked dyspnoea on exertion. In severe cases there is slight cardiac dilatation, soft, full pulse, venous stasis and sometimes slight edema of the lower extremities.

Menstruation is usually very scant, of a pinkish color, and irregular. There may be complete amenorrhea. May be dysmenorrhea. Digestive disturbances are common.

There may be palpitation of the heart and pulsation of the peripheral veins.

Emotional and nervous symptoms are common. The subjects often become morose and despondent, hysterical or melancholic.

Attacks of gastralgia are frequent and gastric ulcer or phthisis may occur as complications.

Functional cardiac murmurs may be detected. Headaches and neuralgia may be present.

Diagnosis.—An examination of the blood, showing the marked disproportion between the hemoglobin per cent and the number of red blood corpuscles usually makes the diagnosis easy.

Prognosis.—Death from chlorosis is rare but the condition has a tendency to become chronic and relapses are frequent.

Treatment.—The treatment of chlorosis consists of the administration of iron and arsenic with the proper hygienic and dietetic measures.

In beginning the treatment it is best to put the patient to bed for at least a week. Open the bowels well with castor oil or preferably fractional doses of calomel.

Give them a light diet rich in iron-containing foods—vegetables, eggs, fish, meats, milk, cream, etc.

Have them take a cool bath once or twice a day.

Give these patients plenty of fresh air and sunshine, but do not allow over-exertion. See that they have intervals of rest and plenty of sleep.

If the condition occurs in school girls it is best to take them out of school for some time.

Almost any form of iron may be given, but probably the best is Basham's Mixture in doses of two drams three times a day.

Arsenic may be given in the form of Fowler's solution or in the form of sodium cacodylate.

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DISCUSSION.

Dr. William C. Maples, Scottsboro: The last speaker mentioned bad hygiene and bad habits as causes of chlorosis. In that statement I do not think he is borne out at all, the fact being that chlorosis occurs rather more frequently among the better class of people than among those with bad hygiene. I have to take issue with him on that. I have done a lot of practice among very poor people, and chlorosis is not common among them at all. The treatment is all right. Iron is the great remedy for chlorosis. It is almost a specific. The preparation I like is reduced iron.

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THE DIFFERENTIAL DIAGNOSIS AND TREATMENT OF THE LEUKEMIAS.

CHILTON THORINGTON, M. D., Montgomery.

The terms leukemia and leucocythemia were proposed by rival claimants for priority of discovery. Virchow proposed the term leukemia, while Hughes-Bennett used the term leucocythemia. From an etymological standpoint leucocythemia is more descriptive of the blood findings, meaning white-cell blood; while leukemia simply means white blood.

Von Leube designates leukemia as a disease characterized by an increase in the number of white cells in the blood, as the result of morbid activity of the blood forming organs, and in which the blood alteration forms the essenial feature of the progressive and pernicious course of the disease.

Two classes of leukemia are described, the myelogenous, and lymphatic. Either class may become chronic or acute, and by some investigators it is claimed that they have different etiologic factors; however, this would seem to be improbable, inasmuch as chronic leukemia may have an acute onset as well as an acute termination.

Although leukemia is more common in middle life, and in males, cases occur in quite young infants, and in the aged. It usually runs its course in three or four years; however, it may prove fatal within a few weeks, or continue its pernicious course for a number of years.

It is said of leukemia that it is the only disease affecting alike man and the lower animals, such as the ox, sheep, dog, hog, cat, and chicken.

The early symptoms of myeloid leukemia are those of other anemias, viz: indigestion, anorexia, headache, weakness, shortness of breath—amounting to dyspnea on exertion—palpitation, faintness, and, as claimed by some authorities, priapism. These symptoms are insidous in onset, and are followed by emaciation, fever, and splenic enlargement, possibly lymphatic enlargement; however, Cabot states that he has never detected lymphatic enlargement in the myeloid type of leukemia. Hemorrhages are the most unfailing symptom, and may be the first

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cause of real alarm to patient, or the impelling influence causing him to seek medical aid. They may take place from any of the mucous membranes, especially the stomach, or into the skin forming large pupuric spots. When occurring into the brain hemiphlegia may result or, indeed, sudden death. Dropsical swelling appears as a late symptom. The urine contains albumin, casts, and an excess of uric acid.

The blood picture of myeloid leukemia is characteristic, distinguishing it from all other diseases. In recent cases its gross appearance may not differ from the normal, but in extensive cases it is pink, and more opaque. In some cases it may be quite dark, even cholocate color. Coagulation is slow, or may be absent altogether. The red cells are diminished in number. Osler's average count being 2,800,000, however, it may be as low as 500,000. Poikilocytes, marcrocytes, and microcytes, are rare, but normoblasts may be found in large numbers, and according to Emerson, are best studied here. Hemoglobin is reduced, giving rise to a low color index—usually about .5.

A hyperleucocytosis of 500,000, or more, is not an unusual finding in leukemia, however in a few cases, and just before death, a leucopenia may be observed. Neutrophilic myelocytes predominate, and may constitute 30 to per cent of the white cells, while basophilic myelocytes are next in importance in diagnostic significance, being 5 to 10 per cent. Eosinophilic myelocytes are also found, but never as many as the above. The neutrophiles, while increased in number, are relatively diminished, rarely exceeding 40 per cent. Lymphocytes, both large and small, are found. Indeed it is the polymorphorous state of the blood that impresses us.

Acute lymphatic leukemia, as described by Ebstein and Fraenkel, is charatcerized by suddenness of onset, by its febrile course, and its resemblance to that of a severe acute, infectious disease. The onset is not accompanied by enlargement of spleen or glands—at least not noticeably so—but the most prominent clinical feature is a hemorrhagic tendency of the disease; it has the appearance of hemorrhagic purpura, and may be confounded with this, especially as the hemorrhages may occur before the characteristic blood picture is formed.

Stomatitis and tonsillitis are early concomitants of the disease.

The following case of acute lymphatic leukemia was instructive as my first diagnosis was typhoid fever.

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Patient, negro, male; age 19.—History negative, except typhoid fever two years previous. Denies ever having had syphilis, or malarial fever.

Symptoms: Onset sudden, first noticed by headache, fever, and prostration. It was not until the advent of hemorrhages from the stomach and bowels that he applied for medical advice.

Physical Examination: Tonsillitis but no stomatitis. Temperature range from 100 to 103. No splenic or glandular enlargement. To obtain sufficient blood for a Widal, white cell count, and smears, some six or seven deep stabs had to be made into the finger tips, and even then only a few drops could be obtained. Widal was weak positive. Leucocyte count could not be made, however there was an enormous number of lymphocytes, most of them were the small variety. The positive Widal may have resulted from the antecedent typhoid fever, or, as we some time find, from other processes not understood.

Chronic lymphatic leukemia is charatcerized by its protracted course, by painless enlargement of the lymph glands, and probably some enlargement of the spleen. Pallor and emaciation are manifest. Continued hemorrhages provoke anemia which, in turn, causes viceral changes, especially in that of the heart giving rise to myocardial insufficiency.

The blood shows a hyperlymphocytosis, especially the small lymohocytes, which may represent 90 per cent of all the white cells. Limbeck considers that the blood picture in this form of leukemia is not sufficient for a diagnosis, since in some cases of lymphosarcoma the blood findings may be similar.

In a few cases of lymphosarcoma in which I examined the blood the lymphocytes were increased, but not to the extent found in lymphatic leukemia. A case of lymphosarcoma recently referred to me for blood examination showed nothing unusual, however, he had just returned from Johns Hopkins where he had been treated with radium.

In making a differential diagnosis of leukemia from other diseases, we must rely largely upon the blood findings in leukemia, as in no other disease is the blood formation similar.

The anemias are to be differentiated by process of exclusion and inclusion. The pernicious type, which at first sight may be considered leukemia, will fail to show glandular and splenic enlargement, and the blood picture is quite different. The most striking thing about the blood of pernicious anemia is the great

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reduction of red cells, with a relative increase of the hemoglobin. The color index is always above unity, and quite frequently as high as 1.8. Poikilocytes and megalocytes are numerous, and it has occurred to me that inasmuch as the red cells are so greatly reduced in number, the megalocytes are but red cells considerably distended by reason of the additional hemoglobin—(which may be as much as 25 per cent to 75 per cent)—crowded into them, which finally rupture, giving rise to the irregularly shaped poikilocytes. Polychromatophilic degeneration is extensive in pernicious anemia. The megaloblasts should outnumber the normoblasts, otherwise, according to some authorities, a diagnosis of pernicious anemia is not justifiable. The leucocytes are not increased, and the lymphocytes may equal, or exceed the neutrophiles in number.

Splenic anemia, from a clinical standpoint, may have many symptoms in common with leukemia, especially myeloid leukemia. The patient shows unusual pallor, or may actually be lemon color. He presents symptoms found in the anemias with the additional symptoms of hemorrhages, and enlarged spleen. At times the spleen is greatly enlarged, extending to the median line, and occupying much of the left side of the adbominal cavity, displacing part of the vicera. The heart may be pushed upward until its apex beat is found in the fourth intercostal space.

The blood picture in splenic anemia is nothing like that in leukemia. The red cells and hemoglobin are reduced, but a leucocyte and differential count will determine that this is not a leukemia, inasmuch as the leucocytes are reduced in number, and there is nothing unusual regarding the white cells.

Hogkin's Disease, or pseudo-leukemia, may resemble the leukemic state because of the enlarged lymph glands, and the anemic course of the disease, but here again will the blood examination assist us in differentiating the two diseases. Beyond a moderate anemia there is nothing extraordinary regarding the blood of Hogkin's Disease. A microscopical examination of one of the excised glands should settle all doubt.

Tubercular lymph glands are more localized, and more irregular in shape than is found in lymphatic leukemia. The blood presents nothing unusual, therefore a diagnosis must be made by exclusion, or by microscopical examination of one of the excised glands. Tuberculin injections will be followed by temperature reaction if the process is tubercular.

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Syphilitic glandular enlargement may have to be excluded before considering the patient leukemic. The blood is negative in so far as resembling leukemic blood; however, it should give a positive Wasserman; failing in this one of the glands should be punctured with a hyperdermic needle and some of the substance of the gland placed under a darkfield condenser, and search be made for the treponema pallida.

Simple leucocytosis is to be differentiated from leukemia by the transiency of the former, and by the preponderance of the neutrophiles.

Causal treatment in leukemia is impossible, as the etiology of the disease is yet to be discovered. Arsenic for many years was the drug most used. It was given in the form of Fowler's solution, but more recently the newer forms of arsenic are used, such as atoxyl, soamin, and sodium cacodylate. Louis Mix advocates the treatment of these cases with neosalvarsan, given intravenously; he adopts this treatment on the hypothesis that leukemia is due to a form of spirochete. Glandular and splenic enlargement is reduced by X-ray treatment, but otherwise the disease continued uninfluenced. According to letters received from Hot Springs, Ark., the radio-baths are not helpful. Dr. Martin states that any improvement these patients receive is attributed to X-ray.

Benzol has received critical study by leading therapeutists, as relates its action upon the leucocytes in leukemia—which would appear to be selective—inhibiting cell proliferation in leukopoietic tissues, resulting in a more normal quantitative, and qualitative leucocyte count. It is claimed that benzol is more potent in the chronic type of leukemia, and less potent, or actually dangerous, in the acute type. The dose of benzol recommended is from one to two drachms daily. It is best administered in capsules with equal parts of olive oil.

Should white cell proliferation be due to over-activity of some ductless gland located within the brain which presides over the lymphatic glands, it would not be unreasonable to expect a cure of leukemia with properly selected endocrins.

No matter what plan of treatment is adopted in the leukemias, many organic proprietary preparations are exploited for the associated anemia; but after all too much reliance cannot be placed in these highly organized products, inasmuch as these beautiful—though frail—structures may become reduced to their original elements by the iconoclastic action of the gastric juices.

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HEMOPHILIA.

F. W. WILKERSON, M. D., Montgomery.

Hemophilia is a "hereditary constitutional anomaly characterized by severe, often uncontrollable, bleedings." The hemorrhage is usually from trivial cuts or bruises, or it may be spontaneous.

The first American article on this subject was written by Dr. John C. Otto, and the first American bleeder, whose detailed record was given, was Oliver Appleton, of Ipswich, Mass., early in the eighteenth century.

Etiology: The disease is almost always congenital, though cases of apparently spontaneous origin do occur; usually there are a large number of cases in one family, and the tendency of the disease is to skip one generation and appear in the next. Males are more frequently affected, but it seems to be transmitted by females. In other words, if a man belonging to a hemophilic family marry a healthy female there will be no hemophilic children; but if a female of a bleeder family, though herself healthy, marry a healthy man, there are very likely to be hemophilic children. That the disease does not always skip a generation is proven by the case of a friend of mine—a man in my class in medical college. This man's father and himself were both bleeders, the father finally dying from a severe, uncontrollable nosebleed. In this case, the transmission was not through the mother, for she came of healthy stock. Night blindness and color blindness are somewhat similar to hemophilia in that males are usually affected, and the disease usually spread by females. The disease seems to be more common in Northern climates than Southern, and usually occurs in the earlier years of life. It is exceedingly rare for the onset to occur after the twenty-second year. If a hemophilic live to adult life, the tendency is for the trouble to improve, though this is not always the case, as is shown by the instance just mentioned of the man dying from the nosebleed, which occurred about his sixtieth year. Blondes seem to be affected more

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than brunettes. Many cases of hemorrhage occurring in new born infants are due to sepsis, and should not be mistaken for true hemophilia.

Pathology: Formerly it was thought that hemophilia was due to great fragility of the blood vessel walls, but this idea has been discarded and the most commonly accepted theory today is that it is due to failure of the blood to clot. The normal method of blood clotting is the formation of fibrin, from fibrinogen, which is previously present in the circulating blood. This does not occur spontaneously, but only when the fibrinogen is acted upon by thrombin. Thrombin is not normally present in the circulating blood, but is formed after the blood has been shed from three other substances; prothrombin, calcium salts and thrombokinase. Pro-thrombin and calcium salts are present in the circulating blood, and thrombokinase is present in the formed elements of the blood and tissues generally. There is much belief, too, that the blood platelets in some way aid in the formation of thrombin. To summarize—thrombin is formed from the interaction of pro-thrombin, calcium salts and thrombokinase, and fibrin from the interaction of thrombin and fibrinogen.

There are many ways in which the phenomena of hemophilia are explained, and one of the most convincing theories is that of Addis. He considers that the delay in coagulation is due to the slow formation of thrombin rather than to lack of interaction between thrombin and fibrinogen after the thrombin has been formed, and he considers further that the slow formation of thrombin is the result of an inherited anomaly in the blood which causes an abnormally long time for the formation of prothrombin. The addition of calcium salts to the blood does not hasten the coagulation time in any way.

There are many other theories as to the delayed coagulation time, none of which are more than theoretical, but this one of Addis' is to me the most convincing yet offered.

Symptoms: Occasionally prodromal symptoms precede the onset of bleeding, such as headache, plethora, palpitation, a feeling of tightness, etc. These, however, are rare. The characteristic symptoms of the disease are severe bleeding following very slight trauma, or occurring spontaneously. The hemorrhage may be classified according to location, as external, internal and synovial. Of these, the most common are the ex-

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ternal with epistaxis, occurring much more frequently than any other. Next in order of frequency, come hemorrhage from the gums, stomach, intestines, urethra and lungs. Fatal hemorrhages may follow the extraction of a tooth, a slight nasal operation or a tonsillectomy. The bleeding in this disease usually lasts for hours, and some time ago I saw a man whose gums had oozed constantly for four days following removal of a tooth. One injection of horse serum stopped it, after all local applications had failed. In female bleeders, menstruation and parturition do not seem to be attended by any ill effects, and the flow is apparently no greater than in normal women. Internal hemorrhages are not so common as external, though large hematomata may occur as a result of muscular action.

Synovial or joint hemorrhages are quite frequent, the knee, ankle, wrist, elbow, hip, being involved in order of frequency. The joint may fluctuate and there may be a rise of temperature, causing the condition to be mistaken for a septic joint. The blood may be absorbed in a short time, or may remain, become organized and ankylosis be the final result.

There is usually no change in the blood, except the delayed coagulation time, until after there has been numerous hemorrhages or one severe one, when the blood picture will be that of a secondary anemia.

Diagnosis: The family history is the most important point in the diagnosis of this disease. No single hemorrhage, no matter how bad, warrants the diagnosis. The hemorrhage of the new born is usually septic in nature, and should not be regarded as being due to hemophilia.

Purpura may be difficult to distinguish from hemophilia, but in purpura the coagulation time of the blood is not delayed as it is in bleeding. In purpura, the blood platelets are considerably reduced in number, which is not true of hemophilia. In hemophilia the hemorrhage is usually from one site, but in purpura the hemorrhages are multiple and not associated with any trauma, as is usually true of hemophilia.

As already mentioned, there is possibility of mistaking a hemophilic joint for a septic joint, and the possibility of hemophilin should be borne in mind in all acute joint conditions.

Prognosis: This is always bad, but if the patient survive the adolescent period, the tendency to severe hemorrhage often ceases. In many cases, however, as already stated, the hemor-

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rhagic diathesis still persists, and fatal hemorrhages may occur late in life.

Treatment—Prophylaxis: Hemophilics should not marry, especially the females of hemophilic families. All children of hemophilic families, during their childhood, should be carefully protected, and every endeavor should be made to keep them from even slight injury. Surgeons should not undertake the slightest operation without first ascertaining the patient's family history in regard to bleeding. Failure to do this has on more than one occasion resulted in the death of the patient from hemorrhage, and in damage to the surgeon's reputation. Hemophilics of all ages should lead lives of comparative quiet, with careful regulation of diet, bowels, and all that pertains to personal hygiene. Every effort should be made to keep in the best possible condition.

Local Treatment: The usual measures for the relief of hemorrhage should be applied to the bleeding spot: firm pressure, the usual styptics, and, if necessary, application of thrombokinase in the form of an extract of lymph gland, thymus, or testis. The part should be kept at rest, and any loose clots removed, as these sometimes interfere considerably with the cessation of the bleeding.

Medical Treatment: Some years ago the calcium salts were extensively used on the theory that a deficiency of calcium was responsible for the delayed coagulation time. With the more recent work done in this connection this has been shown to have been an erroneous conception, and clinically it was found that these preparations were of little value. Their use has now practically been abandoned. Many other drugs which were supposed to have a styptic effect have been employed, but apparently without benefit.

Serum Treatment: The trial of blood serum in these cases was first introduced by Weil, and this has proven to be by far the most efficacious treatment yet discovered. Fresh human serum is the best that can be used, but serum, already prepared, as anti-diphtheritic serum, or other animal serum, can be used if necessary. It is better to employ this intravenously than hypodermically, because a hematoma is apt to form when a hypodermic is given to a hemophilic. The dose is 20-30 c. c. hypodermically, and 10-20 c. c. intravenously. This treatment can be given for emergency use, and it also can be given be-

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tween hemorrhages as a prophylactic, injections being given at intervals of several days for a more or less indefinite period, depending on the response. The son already mentioned in this article would take a series of injections of human serum upon the appearance of even a slight epistaxis. Then he would have a long period of quiescence, resorting again to the serum on the occasion of the first sign of blood. The serum always stopped the bleeding, and kept him free much longer than any other treatment.

In the last few years transfusion has been employed with success in a great many instances, especially when the hemorrhage has been sufficient in extent to endanger the life of the patient.

DISCUSSION.

Dr. W. W. Harper, Selma: I had hoped to show a very interesting case and had arranged for the case to be present, but after our program became disarranged, I telephoned him not to come. This case was a little boy, a hemophiliac. This child came under my care some two years ago for a slight bleeding from the gums, having fallen and broken a tooth. We recognized that he was a hemophiliac and gave him, first, antitoxin,—the only serum we had being some diphtheria antitoxin. That helped the condition. Later on, after giving several doses, I gave him coagulose. This seemed to improve him for a while. When he ceased to improve, we gave him serum from his mother's blood. The child did well for a while, and then I lost sight of him for several months. The last of February the child was brought in with the history of having had a general convulsion. When I saw the boy he could not stand on account of paralysis of the left leg, he was having tonic contractions of the left forearm and his face was drawn to the left side,—showing a left-sided hemiparesis. The symptoms indicated cortical hemorrhage over the right motor area. I began giving the boy serum from the father. This was Tuesday. I gave him 20 c. c. of his father's serum as soon as I could prepare it. This was repeated Wednesday. On Thursday I was called about 2 a. m. to see the child, who was in a general convulsion. I suppose it took me fifteen minutes to reach the hospital, and the convulsion lasted five minutes after

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I reached the hospital. At 6 o'clock he had another convulsion. The child then had complete paralysis of the arm and I concluded that there had been further increase of the hemorrhage. I at once injected into the boy's thigh 20 c. c. of whole blood from the father. In twenty-four hours the child began to improve. I repeated the injection every day for several days and then every other day; then once a week until the present time. There was very little pain. The boy began to improve at once, had no more general convulsions, and today he hasn't a sign of paralysis anywhere. The whole thing has cleared up. For the first time in the boy's life he is eating as a normal child should, his color is good and he is rapidly gaining in weight.

I want to advise the use of whole blood instead of blood serum. Take the father's blood, not the mother's. It is a peculiar thing that this disease always skips a generation. The mother inherits this tendency, does not transmit it to her daughter, but does transmit it to her son; but when her daughter marries, she transmits it to her son and not to her daughter. Therefore, do not use the mother's blood because it seems to be deficient in the thing that causes coagulation.

You know, of course, that we should use only the blood of relatives in transfusion. This spring we stumbled on a point which I believe is very important for the pediatrician and for the surgeon. A few months ago some one stole the sheep which we kept for Wassermann purposes and we had to go out into the country for sheep blood. A lamb was caught and in attempting to draw blood from the heart the needle was inserted several times,—securing only a very little blood. As the lamb was very young, we thought it best not to stick it too many times so another sheep was used and the blood from the two animals put into the same container. When I reached the laboratory there was not a single red cell in the container,—the blood of one sheep had hemolysed that of the other. Had one of them been the mother of the other, the chances are that hemolysis would not have occurred. On another occasion I had to go to a flock of sheep in the country for blood and after the sheep were driven about a mile I procured blood from one of them and, as usual, put it into sodium citrate. When I reached the laboratory this, to, was hemolysed,—there was not a single red cell. The explanation, I believe, is this: When the blood was drawn the animal was very tired and hot—and

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this, in some way, produced hemolysis. The point is this: Do not use the blood for transfusion from a man or woman who is worn out from a day's work or who is very warm,—for the the same thing may happen that occurred with the sheep,—the blood of the patient may be hemolysed by that of the donor,—and there will be a funeral. We do not know that this would happen, but we are not going to try it.

In giving blood to hemophyliacs, two points should be kept in mind: Use the blood of the father,—the whole blood, not just the serum, and see that the father is not tired or hot.

Remember that hemophilia skips one generation,—the daughters do not have it,—a wise provision because if they did the chances are that the mothers would all die during parturition.

Dr. T. B. Hubbard, Montgomery: I have had two cases of hemophilia that have taught me a great deal. The first case I had was a baby two weeks old with bleeding from the umbilicus. The parents were healthy, neither one of them specific, and the child before that had been a healthy child. I was called in to see him when he had been bleeding for several hours. At first I did not think it was a hemophiliac. So I simply, there in the home with the doctor, took a piece of silk and ran around the umbilicus and drew it tight. That stopped the bleeding and I left it alone. That was midday. At six o'clock that afternoon we went back again and it was oozing. We took it to the hospital, and gave it some coagulose. It kept on oozing, and I thought I would see if I could not tie it tighter. I put in some deep sutures and tied them over a roll of gauze. Gave him some more coaguolse. About midnight it was still bleeding. I opened it up with, and included the umbilical stump and the wound in figure of eight sutures of heavy linen. It stopped bleeding and I thought it was going to be all right. The child started to oozing again and bled to death. The point I want to make is that there is no use wasting time trying to stop the bleeding point; we must get at the hemophiliac condition.

In another case that I have had just recently I was a good deal more successful. I saw a child, a healthy child, one week old, that had bleeding from the umbilicus. I did not do anything locally except to take a little coagulose and apply it locally. Then I gave it a dose of coagulose, and immediately drew some of the father's blood and gave four ounces of the

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father's serum, and the baby never bled after that. The whole treatment in this case was directed to the child's serum and not to the local condition. So I think we should not waste any time in bothering with the local condition. And, as Dr. Harper has brought out, there is no particular use in stopping to let corpuscles settle before we take the serum. It is just as well to use the corpuscles and the serum, as the corpuscles are not in the least toxic. All we have to do is to draw the blood off and inject it into the child immediately, and I believe that is as efficient as transfusion and it wastes no time, and is far more simple in technic.

Dr. H. S. Ward, Birmingham: One little practical point about hemopilias is that you are liable to mistake a hemorrhagic diathesis in which you have an acute hemorrhage from a hemophiliac patient. As I view a hemophiliac patient it is one who has hemorrhages at all times. That is a familial disease; they were born with it and they will die with it. No familial disease can be permanently cured. In the case of all of the familial diseases, such as progressive muscular atrophy, there is no cure for them. That is an inherited thing, and we get it like we get the color of our hair and eyes and our general features. Now in the case of many of these babies that have these acute hemorrhages it is a blood dyscrasia. Of course, the treatment is the same, you give them this serum, the whole blood, or blood transfusion. That cures them for the time. The same thing is true in typhoid hemorrhage; typhoid hemorrhage does not mean that it is a hemophilia. You give them the serum and they get well. In these children who have had hemorrhage you treat them like any other hemorrhage, but as years go by and they get another injury they will bleed just as badly as they ever did. Apparently this blood from the father to the child will cure them for a certain length of time. Until those bodies, whatever they may be—which apparently no one has definitely made out—gotten from the father and given to the child, when they are all used up, the child is back in the same stage it was when it was born, still a hemophiliac, and, as I say, any one who is born a hemophiliac will die a hemophiliac. Take Dr. Harper's case; his case will have to be watched the rest of his life. They must prevent in this child all types of injuries as far as possible. When the injuries do come you treat them as suggested. As

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soon as it uses up the coagulant bodies secured from the father it will then be a bleeder. Now a blood dyscrasia and a hemophilia are entirely different things. In these infants where you do not get a history, it is usually a dyscrasia. Whole blood is better than serum, but the serum alone will stop it. If it is an oozing horse serum will stop it, but if the bleeding is from a large vessel it will not do any good. If it is a large vessel you must tie the vessel if you expect any results.

Dr. H. L. Castleman, Sylacauga: I had not expected to discuss this paper. I do not expect to add anything particularly to the splendid paper of Dr. Wilkerson, but since Dr. Ward has spoken I thought that I might report a case that I had of hemophilia. I was suprised and put out not to be able to find anything on this subject in the texts at hand. I watched the case. I delivered the mother. I was called the second day to stop a hemorrhage from the umbilicus. I thought it was because it had been handled roughly. I succeeded in stopping the hemorrhage, and in the course of time the child was brought to my office almost exsanguinated from a little nick on the side of the thumb. I saw the child from time to time and made the diagnosis of a bleeder. Dr. Ward tells us that there is no cure for it. That is why I am reporting this case. I saw that child, as I say, from time to time, and I have seen it all covered with hemorrhagic spots, hematomas under the skin; I have seen it covered from its head to its feet; one large one over its right eye which suppurated and caused a great deal of trouble. Finally it stopped bleeding and healed with an immense scar.

There was one thing that I noticed in treating that child, and the only thing that I could find in the literature that was advised, and that was the use of aromatic sulphuric acid. I gave it all the armoatic sulphuric acid I could get the people to administer, and as long as they were giving it the spots would all clear up, but in the course of time would return. So, if there is no cure and if you know you have a bleeder, in my mind, from the experience I had with that case, you will find that aromatic sulphuric acid will do about as much good as anything else. I saw the child in a number of bleeding spells, but the last trouble it had it stumped its toe, which caused it to bite the side of its tongue. That happened at five o'clock in the after-

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noon, and there had been an attempt before I saw the child to close the cut with a suture. When I saw the child it was about two or three o'clock in the morning. The child was almost exsanguinated. I gave it horse serum, emetine, in fact I ran the gauntlet of usual remedies, but, as I say, the child was almost exsanguinated, and died about nine o'clock in the morning. My reason for reporting the case was my experience with aromatic sulphuric acid when the child would be covered with hemorrhagic spots and hematomas, which so long as continued seemed to benefit temporarily, at any rate cleared up the hematomas.

Dr. Minehiner: I would like to report three cases in one family, apparently a healthy woman, no history of bleeders or of syphilis in the family, two males and the last a female. They all had hemorrhages come on about the fifteenth day and they all died. We used horse serum. The hemorrhages were in the form of hematomas under the skin and also from the umbilicus after it had apparently healed. We used mattress sutures in the first case, and even the suture holes bled. In the last case the mother refused to allow any treatment, for which I didn't blame her.

Dr. Thorington: I won't take up any more time. Describing the disease is the most we can do for it. We haven't yet found a cure, and the patients get worse and worse until they finally die.

Dr. Wilkerson: I appreciate the discussion very much, and I was especially interested in the work of Dr. Harper. The work he did on hemolysis is very interesting, and it will be interesting to hear what it may lead to. He said that invariably the disease skips a generation. That is not always so, as proven by the case I mentioned of father and son. That could not have possibly been transmitted through the mother, because there was no history on her side.

I think that these cases of hemorrhage in the new born that get well, I do not care what you give them, are not true hemophiliacs. As Dr. Ward so well said, they have some blood dyscrasia, a good many are septic, and they may bleed from other causes, things we do not know anything about. They

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are not true hemophiliacs unless they have the tendency to bleed as long as they live. Sometimes as they get very old they seem to be free and have no further hemorrhages, but if the hemorrhagic tendency persists then you can be sure that you are dealing with a true hemophiliac. The most important point in the diagnosis of hemophilia is the family history. No single hemorrhage, no matter how severe, is sufficient to warrant the diagnosis of hemophilia.

The most efficacious treatment is serum, but if they get well and stay well they haven't true hemophilia.

Dr. Griffin: I am mighty glad to have heard the doctor read his paper on pituitrin. I have been using the drug ever since it first came out, and the more I use it the better I like it. I feel that it has shortened labor in every instance where I have ever given it, and it has saved the physician a great deal of time, and it is perfectly safe if used with proper precautions and if not given too early. I just want to thank the doctor for his paper and I wanted to ask him the size dose that he administered. He failed to mention the size dose he gave. I generally give about ten minims every five or ten minutes. I think you can get excellent results when administered that way.

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CAESAREAN SECTION.

TUCKER H. FRAZER, M. D., Mobile.

In presenting this paper to this distinguished body, I make no apology for its brevity or for its freedom from the classical review of the literature upon the subject. I deem it more important rather, at this time, to endeavor to magnify the operation as a life saving one, and to direct the thought of every one present to the basic principles that have placed the operation upon such a high and safe plane.

Do we approach the operation known as Caesarean section with fear and misgivings, or with almost absolute certainty of success? The many intervening years from the time of the first authentic operation by Trautman to the time of Sanger, witnessed the gradual evolution and perfection of the principles as embodied in the operation under discussion include two things, viz., a thorough architectural knowledge of the female pelvis and the parturient canal, and a thorough grounding in antiseptic surgery. Our modern teaching embraces both, and I go so far as to say that no one should dare to enter upon obstetric practice who is lacking in knowledge of either.

When we stop to consider the frightful fetal mortality and maternal morbidity that have been demanded as toll for ignorance in this field of practice, we can not be too grateful for the advent of antiseptic surgery and the marvellous victory that it has achieved in placing Caesarean section in the category of other abdominal operations; and besides the surgeon, familiar with laparotomies for other, and, oftentimes, more serious conditions, has been emboldened to perform lapora-hysterotomy as a choice of election, and has been rewarded by a success that challenges the admiration of the entire profession.

My aim is to make clear to the members of the Association that the operation is now one of safety, and whether the indication for the operation be *absolute* or *relative,* it can be done without fear or trepidation. In any given case the obstetrician

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wishes to save mother and child, and in the procedure he has the satisfaction of knowing that no harm can result to the fetus and that the mother escapes with a minimum amount of trauma. When one reflects upon the statistics of the morbidity, to say nothing of the loss of maternal and fetal life accompanying other operative procedures, he can only marvel that the profession has been so slow to adopt the section as a method of relief. May I be so bold as to declare that with the proper technic, the mortality should be nil, and if I can indicate to you the things that enhance good technic, I may be able to stimulate a desire to seize the opportunity to substitute Caesarean section for other operations. Defeat is more often than not of one's own choosing. And that disregard of the two basic principles will negative the most careful operative technic.

In pointing out the indications for what is termed conservative Caesarean section, I shall make clear the reasons that guided me in the cases that I have had. In some the indications were absolute and in others relative. In explanation of the two terms, "absolute" and "relative," I would say that Caesarean section is absolutely indicated when the dystocia, either maternal or fetal, is so great that it is impossible to remove the fetus even by mutilation, such conditions as tumors, neoplasms, and exostoses, can produce such narrowing as to necessitate the operation. If discovered before gestation is far advanced, these may be removed, or danger anticipated by doing a therapeutic abortion. Of course, if allowed to remain until labor, the obstetrician has but the one recourse—operation,—to save the mother. A true conjugate of 6 cm. or 6½ cm. with a dead fetus would give an absolute indication, and when mother and child are to be saved, a true conjugate of 6.5 cm. to 9 cm. would give an absolute indication. A wider range is embraced by the term *"relative."* When I decide, for instance, that the section will give better results as to mother and child, than embriotomy, pubiotomy or symphysiotomy, or even at times, forceps, I place the case in the relative category. However, there are cases coming under this head, and because of conditions surrounding them cannot be classed as fit subjects for section. To illustrate: cases of prolonged labor, frequent and questionable manipulations, futile attempts at forceps delivery. In the face of such conditions, choice should be between that of mutilation and a laparo-hysterectomy.

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More than a quarter of a century ago, an authority declared that embryotomy in case of a greatly contracted pelvis was as dangerous to the mother as Caesarean section, and that since the former operation always sacrificed the child, we should not wait too long before resorting to the latter when other means of delivery fail. As a rule, I should say, that, placenta praevia is not a relative indication, yet it has been made one by some operators. The risk to the mother should always be considered in case of placenta praevia, and the demand for an effort to save the fetus should be urgent. I include also as a relative indication, an unyielding cervix and undilatable external os. I have, in my statistics, a case of this kind, and so fortunate was the outcome that I am almost persuaded to agree with Newell that Caesarean section offers more to the mother than does instrumental interference, followed by nervous shock, prostration and morbidity. In the light of present day surgery, the operation should be done more often and with the supreme idea of saving mother and child, and with the additional idea, in suitable cases, of protecting the mother against subsequent pregnancy, by sterilization, as accomplished by section and burying of the oviducts.

Before taking up the consideration of the conditions to be met in doing the operation, I desire to recapitulate. If the fetus, even after mutilation, cannot be delivered, the indication is positive. If mutilation of a dead fetus can be done without too great risk to the mother, the operation is relative. If the fetus be living, and embryotomy can be done without risk to the mother, the operation is relative. If the conjugate vera is 7.62 cm., and the fetus be alive, or if the conjugate vera is 7 cm., and the fetus dead, the indication is positive. A generally contracted pelvis, in the presence of a normal size fetus, is always a menace to the mother if embryotomy is attempted, and it is here that Caesarean section offers most.

Reliable statistics show that Caesarean section is rapidly becoming one of the safe operations. My own record of ten cases, covering several varieties as they relate to the etiology, show a negative mortality for the ten mothers and eleven babies. My own success is due to three things: mother and fetus in good condition, well equipped operating rooms, and competent assistants.

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Every operator realizes that certain conditions must be met. This rule does not apply to the "absolute" indication, because here the fetus can be removed in no other way, and whether the woman has been infected or not by preceding treatment, it must be removed. For relative indication the mother should be a fit subject and the fetus be viable. I should not, in the presence of a relative indication, proceed if the fetus were a monster. As pointed out by the preceding speaker, the X-ray is now a valuable aid in clearing up this question. The woman should be in no danger from the anesthetic, or from shock because of kidney or heart disease. Gonorrheal infection would be a bar to a relative Caesarean section. It is also desirable that the cervix be patulous and that labor has begun. Herein is the danger of operating for placenta praevia; viz., hemorrhage on account of badly contracting uterus. Many operators prefer to anticipate labor, claiming many advantages from careful and unhurried preparations for the operation.

If the case is one of election, no pains should be spared to place the patient in the best condition possible for the operation. If one of emergency, no detail shrould be omitted from the beginning to the end of the operation. I am now to emphasize the point that every case of Caesarean section should be one of election, and not of emergency, barring, of course, the infrequent cases of eclampsia and placenta praevia. The profession should now be able to properly diagnose the condition demanding surgical interference, and I should be bold to advise the procedure. All doubt as to whether the case is one of absolute or relative indication should be promptly settled.

A thorough working knowledge of pelvimetry should be the claim of every doctor who offers to practicé the obstetric art. And the application of this knowledge should keep pace with the application of the principles of modern surgery. When the obstetrician engages to care for his patient during the period of gestation and to conduct her safely through the period of labor, he should at once fortify himself with knowledge as nearly complete as possible concerning the size and shape of the pelvis of his patient. If a primipara, this knowledge should be so exact as to reveal whether or not a normal sized fetus can pass through, and whether the physician be long or early from the school room, he should be thoroughly familiar with the method of obtaining this knowledge. If I can stim-

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ulate thought and arouse a spirit of determination in regard to a more honest relation between physician and patient in this field of practice, I shall not have spoken in vain today. Many physicians, otherwise excellent surgeons, hesitate to extend relief here because of the fear of failure, and on the other hand, many physicians invite failure by a careless disregard of the essential of success. The well equipped hospital enables the physician to approach the operation with absolute certainty as to the details of technic, and this leads me to speak of the technic of this operation.

If possible, the patient should be in the hospital several days before the expected date of the operation. If this cannot be done, the patient should have the best possible care, as to general health, in the home. All pathologic conditions should be treated, and strict attention should be paid to all of the emunctory organs. The bowels should receive special attention in the way of laxatives and enemata. The immediate preparation of the patient is that for other laparotomies, and, if deemed advisable, the additional safeguard exercised by having the vagina carefully cleansed before the operation.

You have discovered that no allusion has, thus far, been made to extra-peritoneal Caesarean section and vaginal Caesarean section, and therefore for the purpose of this paper, I shall omit any description of these methods of operating, and shall not indicate the technic of either.

I deem it of much importance that the operator have a clear knowledge of the position of the fetus, and also of the location of the placenta even before the patient is placed on the operating table. This knowledge is obtained by careful palpation and auscultation. Success depends upon scrupulous regard to details in every step of the operation.

The operator needs few instruments, the outlay as compared to that for other operations is indeed modest. Two knives, two pairs of scissors, one-half dozen artery clamps, two pairs of tissue forceps, eight curved needles, two needle holders, No. 2 and No. 1 chromicized 20-day cat gut, silk worm gut, plain No. 2 cat gut; and if there is probability of a Porro operation to be done, there should be ready for use 2 or 3 retractors, one dozen pedicle clamps, vulsellum forceps and angular clamps.

I employ five assistants, in addition to the anesthetist,—one to assist me directly in supporting the abdominal tumor and

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subsequently to wall off the peritoneal cavity and compress the uterus after it has been delivered from the cavity; one to handle instruments; one to handle sponges, and one to receive and care for the infant. I emphasize the importance of having a level-headed assistant for the duties first mentioned. The patient is catheterized after being placed on the operating table, and before the final sterilization of the abdomen. Assuming that from 20 to 30 minutes will be consumed in anesthetizing the patient, I have an assistant give 30 minims of ergotole hypodermatically just as the anesthetist begins his duties. When the anesthetist announces that the patient is almost ready, the skin of the abdomen is iodinized, and the occlusive sheets placed over the patient. Now when I am ready to make the adbominal incision, I have the assistant give 1 c. c. pituitrin hypodermically.

The first step in the operation is the abdominal incision, which is made in the median line extending from 3 or 3½ inches above the umbilicus to the same distance below, and to the side of the umbilicus. Care is to be observed because of the thin wall, the scalpel coming quickly upon the uterine wall, and there is danger of incising the wall too early. I prefer to complete the incision through the abdominal wall with the scissors. At this step, after the needed number of artery forceps have been applied, the cavity is carefully protected by means of towels placed between the uterus and the abdominal walls, pressure on the sides of the abdominal tumor being made by the chief assistant, which forces the uterus firmly into the opening made by the incision. Inspection of the uterus to ascertain the degree of rotation, if any, is now made. If the uterus is found to be rotated on its axis, the incision now to be made will not correspond with that through the abdominal wall, but must be made midway between the cornua. The uterine incision is not quite as long as the skin incision, and my rule is to make this incision before delivering the uterus from the abdominal cavity, but if indications pointed to a Porro operation, I should deliver the uterus before making the incision. Incision into and through the uterine wall results in hemorrhage, which may appear formidable. You cannot now regard hemorrhage, but must proceed to enlarge the opening to the full extent. The placenta may be implanted on the anterior wall of the uterus, if so it must be pushed aside or be bored through by the hand

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of the operator. As a rule the membranes are ruptured or cut on opening the uterus. The amniotic fluid, although it floods the field of operation, can not enter the abdominal cavity, because the first assistant is making pressure. On thrusting the hand into the uterine cavity, an effort is made to seize a foot by which the fetus is extracted. Sometimes the head, if not engaged, is the first part of the fetal elipse to be seized. Extraction should not be hurriedly done, but the hand first introduced should not be removed from the uterine cavity until this is accomplished. The fourth assistant now receives the infant, the cord is clamped by two forceps and cut between the clamps. The placenta is now removed, as well as all of the membranes, care being taken to go over the inner wall of the uterus with a gauze sponge. Now observe if the os is patulous, because good drainage must be assured. At this step, I place a good sized gauze sponge into the uterine cavity, and then lift the uterus out of the abdominal cavity, my first assistant simultaneously placing a towel under the uterus, thereby protecting the abdominal cavity from blood contamination. Hemorrhage is still going on, but it can be controlled as soon as the uterine sutures are placed and ligated.

I proceed now to place three rows of sutures, using for the first row No. 2 chromic 20-day cat gut, and for the other two rows No. 1 chromic cat gut. In placing the first row, I introduce the needle into the outer surface, ¼ inch from the margin of the wall, and bring it out in the wall, barely missing the edge of the inner wall—it is re-introduced into the opposite side of the cut, barely missing the inner wall and coming out on the external surface ¼ inch from the margin—this row of sutures are placed ½ inch apart, and are not tied until the next row has been placed. Now with No. 1 chromic cat gut, on a full curved needle of proper size, I place the second row of sutures between the sutures of the first row. The needle is introduced into the muscle of the walls of the uterus, avoiding the serous covering, and brought out in the same side ⅛ inch from the endometrium, re-introduced into the opposite wall, ⅛ inch from the endometrium and brought out just free of the serous coat. Having placed the second row, I proceed to tie the sutures of both, first tieing the first deep suture and the first muscle suture, then the second deep suture, and so on until all are tied and cut very close. As the sutures are tied the gauze in the

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uterus is gradually removed. Now with No. 1 chromic, I place a continuous suture through the serous coat, which coapts the edges of this coat, and completely hides the row of interrupted deep sutures ½ inch apart. The uterus is now returned to the abdominal cavity, the intestines drawn up out of the pelvic cavity, and the omentum placed behind the uterus. The abdominal wall is now closed after the approved methods employed in other laparotomies.

In the way of after treatment, I advise immediate catheterization of the bladder; morphine, if needed, for pain for first 24 hours; one-half drachm doses of ergot is given every 6 hours for three days. The child is put to the breast within 24 hours, and on the morning of the third day, the bowels are moved by castol oil. I remove the silk worm gut abdominal sutures on the eighth day. I allow the patient to sit up at the end of the fourteenth day, and begin to walk at the expiration of 21 days.

I ask your indulgence in being allowed to describe four cases that seemed to me to be typical cases, illustrating the different features of the operation.

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MORBIDITY FOLLOWING CONFINEMENT.

W. F. Betts, M. D., Evergreen.

In the introduction to his text book on the Principles and Practices of Obstetrics Joseph B. DeLee makes the assertion that labor in woman should be, but is not a normal function; that it is safe to state that 20,000 women die every year in the United States from the direct or indirect effects of labor and that 50 per cent of women who have had children bear the marks of injury and will sooner or later suffer from them. He concluded with "Can a function so perilous that in spite of the best care it kills thousands of women every year, that leaves at least a quarter of the women more or less invalided, and a majority with permanent anatomic changes of structure, that is always attended by severe pain and tearing of tissue, and that kills 3 to 5 per cent of children, can such a function be called normal?

In the opinion that labor is not a normal function he is supported by many authors of wide experience and observation. Whether or not we take this view we all recognize the fact that even under the most favorable environments the morbidity attending and following labor is great. Our chief concern, therefore, is to so look after our patients before, during and after labor as to reduce the injury done to a minimum, for prevent it entirely we can not. The lack of the laity in recognizing the seriousness of labor and its sequalae together with the lack of preparedness upon the part of the average attending physician accounts for the invalidism of many women. Twenty-five years ago when I was graduated from one of the leading medical colleges of the South I had never been present at a case of labor and my first experience along this line was anything but gratifying, as the mother of the young woman in labor became very much excited when the patient began to scream as the head came down and accused me of killing her daughter, (I had just given a vaginal douche against the mother's wishes) and as she had seen more cases of labor than I had I did not know but what she was correct. Fortunately the

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case terminated favorably for the Gods were kind. Schools of today recognize the necessity of instruction along this line and I am sure that the more recent graduates are better prepared than older ones were and often still are to give the pregnant woman the proper attention. The title of the paper suggested to me by your honored president and my boyhood school-mate and friend, Dr. Henry Green, of Dothan, and which I agreed to prepare was Chronic Pathological Conditions Following Confinement—How to Prevent. From this text my article was prepared and this paper is only intended to deal with the prevention and not treatment of the diseases. This resolves itself into treatment and instruction of the patient before, during and after confinement. Where the physician is consulted early instructions as to diet, exercise, clothing and the adoption of means and habits to prevent constipation as far as possible prove to be of benefit. Especial care should be taken in looking after the kidneys as they are generally recognized to be the organs that bear the strain of pregnancy the worst and frequent urinalyses for the detection of albumin and casts with the cutting down of nitrogenous elements of food to the minimum and the stimulation of the emunctory organs when the above conditions are found, help us to ward off convulsions at labor and chronic nephritis afterwards. The correction of mal-presentations whenever possible and mensuration of the pelvis so that in disproportion of the foetus and outlet operative procedures may be resorted to before or at the time of delivering should be resorted to whenever practicable. However, the great majority of women confined in the country are first seen by the attending physician when they are in labor and often the call to the labor case is the first intimation that the physician has that he is expected to deliver the woman. Even if notified earlier economic reasons and distance from the physician's office precludes any instruction or treatment until labor actually sets in. Under these conditions the woman's welfare depends upon the treatment she receives during labor. DeLee places the confinement of a woman among the major surgical operations and prepares for it as for any other major operation. However, the lack of asepsis here is not so fatal as it would be in abdominal surgery else practically all of the women delivered by midwives would die and over one-half of those delivered by physicians would meet the same fate.

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After labor many patients suffer from either celulitis, ovaritis, cystitis, pyelitis, caused from infection, cystocele, rectocele, foecal incontinuence, from laceration of the pelvic floor, or a combination of several of these, together with a train of nervous symptoms making life miserable for themselves and all those about them. The prevention of these pathological conditions depend upon proper preparation of the patient, aseptic conduct of the confinement, judgment as to the length of the time the patient should be allowed to remain in labor without operative procedure, the use of anesthetics when indicated, repair of injuries incurred during labor, the proper care of the lying in woman and the correction of malpositions of the uterus after the patient is up. The ideal place for confinement is a well-equipped hospital where the accoucheur has trained assistants and everything at his disposal. Here asepsis is easy to attain and the patient prepared according to the judgment of the physician in charge, operations performed and injuries repaired under the most favorable conditions. In actual practice in the small towns and country the conditions vary from first-class to those that are anything but ideal. Occasionally with one wash pan for his hands and to wash the baby, no towels or soiled ones, a poor light, untrained assistants, if any at all, he is expected to bring the mother safely through labor with a living child and have them get along alright afterwards, and they usually do so in spite of adverse circumstances. Even under these conditions patient can be fairly well prepared. The vulva and adjacent parts should be well washed with an antiseptic soap and hot water with absorbent cotton. If old cloths only are available these can be made sterile by soaking in a bichloride of mercury solution and the thighs and legs wrapped in them. The bowels should be emptied by an enema and the patient is ready for her ordeal. Usually the conditions are better than those enumerated above and clean towels in abundance with pans and bowels are available. The physician should wear sterile rubber gloves if he has any cause to suspect that his hands are infected, otherwise hot water and soap with some antiseptic solution will render his hands safe. If any faeces escape during labor they should be caught on sterile cotton or gauze pads and carried away from the vulva. No vaginal douches should be given during labor as experience has found them to be worse than useless. No woman need be infected

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by the attending physician if the above precautions are observed. Laceration of the pelvic floor, of the support of the uterus, bladder and vagina occur in every labor "according to DeLee and he states that he has never seen a woman as anatomically correct after labor as she was before. These lacerations convert the soft parts into an open wound favorable to the entrance of pathogenic germs and infections of the adjacent organs. Celulitis may then develop and under favorable conditions general septicaemia; if the perineum is badly torn prolapse or retroversion of the uterus occur later in life and if the sphincter ani is involved foecal incontinence occurs. Cystocele and rectocele follow a decent of the uterus and chronic catarrh of the cervix and the vagina may occur from infection caused by exposure from the open vagina. Precipitate labor is most often the cause of deep vaginal and perineal lacerations. Pituitrin is of benefit in uterine inertia and cases of tedious labor, but has to be used cautiously under normal conditions, as it has invariably, in my experience, caused considerable laceration of the perineum in all my primipara cases when used in full doses. Forceps delivery show 54 to 85 per cent of tears (DeLee). Unwillingness to wait for the completion of a normal labor or the increased fee attached to forceps delivery sometimes, not often perhaps, but sometimes are responsible for the use of forceps and injuries to the soft parts. When forceps are used, delivery should be done slowly and with care. Where the presenting parts are in contact with a rigid perineum chloroform or ether pushed almost to the point of surgical anesthesia may allow the perineum time to dilate and save a severe perineal laceration. If lacerations occur to any but a slight extent they should be repaired as soon as the placenta is delivered, unless the condition of the patient or circumstances forbid.

Immediate repair is generally followed by primary union and if the operation is not a success it does not interfere with an operation several months later. Many women date their ill health from an unrepaired perineum. Care should be taken to remove the placenta intact, either by expression Crede's method, or manually. If aseptic precautions are observed I do not believe that any harm results from the manual removal of the placenta, although this is not usually necessary. Retained portions of the placenta are conducive to infection and

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hemorrhage. The vulva should be dressed as an open wound with antiseptic or aseptic pads of cotton and gauze which should be changed as often as soiled. After each urination an antiseptic solution should be poured over the vulva. Catheterization should not be resorted to unless other means fail. Massage of the urethra, pouring hot water over the vulva, and hot applications over the bladder often cause the patient to void the urine when a catheter would otherwise be required. If once urine can be voided after labor catheterization is seldom required, but if a catheter is once used it often is necessary to continue its use several days with the consequent danger of infection of the bladder. If its use becomes necessary strict aseptic precaution should be observed and urine rendered antiseptic by the internal administration of hexamethylene-tetramine. Before leaving the patient the uterus should be examined externally to see that it is well contracted and in position. The patient should ordinarily be kept in bed nine or ten days and the position changed from the back to the sides and stomach to prevent uterine retroversion. No heavy work should be done until time has elapsed for the uterine supports to regain their strength and involution has taken place. After the patient has been up three or four weeks a vaginal examination should be made and if any misplacement found a well fitting pessary introduced to correct it. A pessary may usually be worn four or five months or longer without injury to the patient. It has been suggested that a pessary be introduced a couple of weeks after labor and worn as a preventive against uterine prolapse or misplacement. In view of the many misplacements following labor the idea appeals to me as being a good one. A good tonic to hasten convalescence should be given several weeks after the patient is up.

SUMMARY.

1st. Instruction of the patient from conception to confinement.

2nd. Proper preparation of the patient for confinement.

3rd. Cleanliness on the part of physician and septic conduct of the labor.

4th. The prevention of lacerations to as great an extent as possible.

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5th. Immediate repair of laceration, if possible, otherwise an operation later.

6th. Intelligent after-treatment of the patient.

These are, I believe, the cardinal points in the successful prevention of the common pathological conditions following confinement.

DISCUSSION.

Dr. T. B. Hubbard, Montgomery: In the papers that I have heard here on obstetrics there is one thing that has impressed me very greatly, as far as the prevention of a lot of these maladies is concerned, and that is the question of hurry. Dr. Britt spoke of it this morning on the subject of oxytocics. Dr. Bates speaks of it now in the prevention of a lot of these troubles such as lacerations and infections. It is a question of hurry. I believe that the main cause of morbidity in obstetrics is the inability and the indisposition on the part of the busy practitioner to give a sufficient amount of time to the care of a labor case. It is not all the fault of the doctor. I do not know what you get around in the country for attending a labor case, but I do know that in most cases in the city if we get anything at all the fee ranges around twenty-five dollars. In other words, the people do not realize the importance of a case of labor and they are not willing to pay a doctor for sufficient and efficient attention. A man cannot give his time and attention suitably for a small fee in labor cases. Here in Montgomery I believe more and more cases are taken to the hospital and more and more attention is being paid to the proper care of cases of labor. In the prevention of morbidity in labor it is more important than anything else, to convince our patients that labor is not a physiological process like defecation. It may be in nine cases out of ten, but in that tenth case when you have to apply forceps, it is far from a physiological process, and it is a time when a man has to give his time and all his wisdom, and he needs all the assistance that he can possibly get. You cannot always get them to a hospital in the country, because you haven't always got a hospital, but if we can get them in a hospital they can be looked after better. We can keep them from having kidney complications, so that it will not be necessary to terminate the labor quickly with forceps and have these lacerations. So that

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if we can get people to understand that we have to spend more time and therefore charge larger fees if necessary for labor cases we can greatly lower the morbidity and mortality. We cannot be aseptic if we are called in late and rush in just before the baby is born.

Another thing about the repair of the perineum. Dr. Hutchinson said yesterday that he did not believe a man ought to repair the perineum right after labor. That to my mind is not the case at all, and I do not think that most people believe that. It seems to me it is easier when the wound is fresh, when the muscles are relaxed; just as we have relaxation of the sphincter ani in a hemorrhoidal operation, we have relaxation of the levator ani muscle after labor. They are not going to retract; you can catch them and sew them up without any trouble, and most of them are going to heal up, I believe, whereas, if you leave these cases alone it will not be a simple suturing, the uterus is going to sag, and we are going to have a complication of affairs.

Then one other thing following Dr. Britt's paper of this morning. I did not hear much discussion of it and I did not have an opportunity to discuss it myself. The use of oxytocics in labor is a thing that has been carried to extreme. It takes time to dilate a cervix, it takes time to dilate the muscles of the perineum, and it takes time to soften up the structures so a child's head can be born, and we are meddling trying to terminate a labor in three or four hours where nature takes twelve or fifteen hours.

Dr. T. J. Brothers, Anniston: One of the most frequent complications following delivery is, as we all know, infection. My experience has been that almost all those cases follow some operative interference or follow a long drawn out first stage of labor, and the way to avoid these complications is to avoid these two things if possible. It is practically impossible to avoid a long first stage in some cases. Of course, a woman who is thoroughly exhausted is much more liable to infection than one who is in good condition. How to avoid that I do not know. That is something that is mighty hard to do, but, as the doctor suggested, the question of hurrying to terminate the labor can be avoided, and in that way in a great many cases we can avoid operative interference. As I say, the great majority of cases

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of infection have followed one of those two things, the cases where the cervix is a long time being dilated and the woman is almost exhausted before the second stage starts. And I think in that kind of a case we are justified in using forceps very much sooner than we would be where the first stage was short, because I think the danger from a long continued labor is greater than the danger of infection following the use of forceps.

Another thing I have not heard mentioned in connection with the repair of the lacerated perineum. As the doctor just said, in any other field of surgery if you have a fresh wound the sooner you treat that wound and repair it and bring the surfaces together the better chance you have of getting union by first intention. And of course that is true of repair of the perineum. There is one thing in connection with it that I have not heard mentioned, and that is the suture material used. If you use cat gut you will get failure in a large percentage of cases, and if you use silk you will get failure in a large percentage of cases, because the silk acts like a wick and carries infection down into the tissues. The proper material is silkworm gut, and if that is used and the suturing is done immediately you will get a good result in almost every case.

Dr. L. A. Jenkins, Birmingham: I would like to say one word in regard to these hurried up labor cases. I have been practicing medicine for about twenty-five or thirty years, and I do not think it is the time to hurry up. I have waited on as many as three or four women in one night, and I was not worried; I never got in a hurry; and my experience is that if you sit around women they get in a hurry and make the doctor get in a hurry. I think if you go there and find you are going to save a slow, tedious case of labor, the patient is suffering and the women want you to do something, give her a hypodermic of morphine, and if you are satisfied that everything is all right—which you ought to be—give them plenty of time for that first stage; give them eight or nine hours; drop by and see if she is all right; and in that way you will get up to your second stage of labor and you will find the parts very soft and pliable, and then get in a hurry if you want to; give her then the pituitrin, and in fifteen or twenty minutes your case will be over with and then you can go on to your others. I have done that a good many times and continue to do it.

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As far as lacerations are concerned, there is no doubt in the minds of a great many of us, and I say repair as soon as you have lacerations. Your woman has given birth and you have delivered the placenta. The best ligature is silkworm gut. That has been my experience in some fourteen or fifteen hundred women I have delivered in my life.

Dr. L. R. Stone, Taff: Some you need to hurry, and some need to be let alone. One rule will not work in all cases. You have to be the judge. Some it will do to give oxytocics to, and some to let alone.

Dr. J. L. Snow, Montgomery: This is quite an interesting subject, and it seems from the discussion that every man has an experience of his own. Some get up and tell us that labor is not a physiological process. I do not understand how they could arrive at a conclusion like that. Every man that has ever been in the world, so far as I have ever been able to find out, except one, has come through that route, and I think that meddlesome midwifery is perhaps the cause of more trouble than almost anything else so far as labor is concerned, and a great many times no doubt the doctor does get in too big a hurry and does not give the patient long enough time for dilatation to take place, but I do look upon it as being a physiological process, whether it is slow or whether it is rapid, and there are perhaps less lacerated perineums than there are rectal abscesses, fissures and fistulas, and these are perhaps due to physiological processes also.

As to repairing the perineum, I think it depends entirely on the individual case. If you have a slow, tedious labor, with considerable edema of the vulva, perhaps a repair would be a failure at that time. If the labor is not attended by edema and the discharge is not great, my experience is that a repair is successful at that time. Now I have had one case recently where I had considerable laceration, a primipara with a tedious labor had to be delivered with considerable force, and in this case repair would have been impossible owing to the amount of edema and would certainly have been an absolute failure. I think that these repairs should be attended to as soon as the adema subsides, and the results, it seems to be, would be successful. The other cases should be repaired at the time.

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Dr. W. F. Betts, Evergreen: In regard to the use of oxytocics, I stated that with full doses of pituitrin in primipara almost invariably I had a laceration. I used to give one c. c. and sometimes repeated that, but in the last year or two I only give about five minims and generally find I get sufficient effect from a small dose and that there is not so much liability to lacerations as from the larger doses.

Now oftentimes we have trouble from prolonged labor, and I think that forceps delivery is indicated rather than to have the head press against the perineum too long. I remember one case in which the pressure was so great that there was gangrene of the perineum; later there was an opening there which required an operation afterwards. So we can err on either side, leaving the woman too long in labor or hurrying her through too quickly. You are liable to get infection from the colon bacillus too if you allow the head to press too long and the parts become contused.

In regard to the repair of a laceration, I said that ordinarily I believed that immediate repair was the thing to do, because at that time the patient's parts are so benumbed that the patient is not so susceptible to the pain They do suffer. The man that tells you that he can repair a laceration without chloroform or ether and not cause pain is telling an untruth. However, if you have used chloroform or ether during the labor you can have your assistant give just a little more and you can put in the sutures without much pain. Of course, if you have got post partum hemorrhage to contend with or the woman is much weakened from any cause or if you have puerperal convulsions, then under those circumstances I do not think you would be justified in repairing the perineum then, or if the lights are too poor or the conditions such that you cannot get asepsis, you can wait a day or so and you can get your union just as well as if you had done it at once. Some time back I repaired a perineum two weeks after labor. This woman was having some fever and a good bit of discharge. It was not my case. I gave her a curettage under morphine and hyoscine and irrigated the uterus, and rubbed off the granulations where it was necessary, denuded the perineum, passed a crown suture through, whipped the tear together with a cat gut suture, put two or three silkworm sutures on the outside and the parts healed perfectly. Oftentimes these lacerations extend up into

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the vagina, and if we go up as high as necessary, take a ten-day chromic gut and whip these muscles together and the floor of the vagina, going right on down to the perineum as far as the laceration goes, and afterwards put about three silkworm gut sutures, we have closed up all our dead spaces, and we haven't the same danger of infection as if we just put in the outside sutures. If you repair the perineum at once it will cost the husband but a little bit more; and he would rather pay you five or ten dollars more to have it over with so that when the woman gets up she will be able to go about her duties. If you wait eight months or a year afterwards until the organs drop down, she has got to go to the hospital and stay from one to four weeks, and so it makes a great deal of difference to the patient, not only so far as suffering is concerned, but so far as the financial end of the proposition is concerned.

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THE USE AND ABUSE OF OXYTOCICS IN LABOR.

WALTER S. BRITT, A. B., M. D., Eufaula.

It is the duty of the physician to see that nothing is done to, or administered to, a parturient woman which will in any way jeopardize her safety or her life or that of her offspring. It is also his duty to alleviate her suffering as much as possible and hasten delivery within the bounds of safety to mother and child.

The time was when quinine was considered a most valuable aid in exciting effectual labor pains, but it is now very rarely used and there is room for serious doubt as to its value.

Strychnine is quite often administered, and probably very effectually, to the mother who is weak and worn out with "nagging pains." Morphia may be classed as an indirect oxytocic and proves of very great value. It relaxes cervical spasm; first inhibits and then (as its effect wears off) regulates irregular and ineffective pains; and overcomes fatigue and exhaustion, by affording a few hours of rest. If a patient be in labor for hours, has ineffective "nagging pains," becomes restless and excited and shows no adequate dilatation and advance, a single dose of one-fourth grain should be injected subcutaneously, provided there is no absolute dystocia. Ergot is strictly contra-indicated before the placenta has been expelled, but should then be exhibited. If the patient be conscious one to one and one-half drachms should be administered orally, if unconscious—twenty minims of ergotole subcutaneously. Rushmore states that adrenalin is the most powerful and prompt oxytocic that we have, but that it is contra-indicated during labor because it produces tetanic contractions; but for the postpartum hemorrhage it is prompt and efficacious, though temporary. He injects ten minims of a one to one thousand solution into the wall of the uterus as high as may be reached on pulling down the cervix.

The greatest discovery and the greatest boon in obstetrics, in recent years, is pituitary extract or pituitrin. At first, like

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all new things, it was pooh-poohed and reviled by those who having eyes see not and having ears hear not. It has done more to reduce the morbidity of obstetrics than any one agent now in use. By shortening labor it has almost done away with forceps delivery. One must not think that pituitrin takes the place for forceps, but by shortening the time of labor in normal cases the accoucheur who has more work than he can decently attend to is not tempted to apply forceps unnecessarily, in order to get away and save lives which he thinks no one else can save. Thus we have less infection, fewer torn perinea, fewer invalid women, fewer deformed children and fewer deaths. The action of pituitrin is almost human. You would think it knew how much damage the meddling accoucheur was producing by repeatedly introducing his fingers into the vagina of the parturient. So it crowds the head down upon the perineum in the shortest possible time and thus actually prevents him from putting his fingers into the vagina so often or for so long periods. Thus is sepsis forestalled.

Pituitrin must be used with brains. It may be just as dangerous as it is useful.

It is a most effective drug but must be employed with great caution. It intensifies labor pains for one-half to three-fourths hour without, as a rule, producing tonic contractions if employed in the proper manner.

In the first stage its use is usually contra-indicated. It may sometimes be given in small doses near the end of this stage if the cervix be dilatable.

In the second stage the value of this drug can not be overestimated. It should not be employed to overcome serious mechanical dystocia. Its application is found mainly in the stimulation of weak, irregular or infrequent pains, where, heretofore, forceps delivery was indicated.

Conditions and contra-indications—The following accidents have been reported: (1) Tetanus and strictura uteri with incarceration of the foetus and death; (2) too prolonged uterine contractions with fatal foetal asphyxia; (3) rupture uteri; (4) pressure necrosis; (5) atony of the uterus post-partum and hemorrhage; (6) deep cervical and perineal lacerations; (7) eclampsia; (8) toxic convulsions in the infant.

Pituitrin should not be given where there is any danger of rupture of the uterus, i e., in contracted pelvis, malpresenta-

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tions and malpositions, tumors blocking the passage, fibroids, diseased uteri, e. g., scars from previous operations. It may not be used early in labor or when the cervix is closed or undilatable.

If the head is not engaged it may be exhibited only after the attendant is convinced that feebleness of the pains is the sole cause of the head remaining high.

Heart disease and the dangers of a sudden increase in blood-pressure are contra-indications.

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DISCUSSION.

Dr. William C. Maples, Scottsboro: I think that attention ought to be called to the danger of pituitrin. It is a very powerful drug, and it is one you are going to get results from every time you give it. In this rushing age when time counts so much there is a strong tendency for the doctor to hurry up and give a good dose of pituitrin, but if we do not watch we will get in trouble. By using it cautiously, in suitable cases, it is a very valuable drug. I saw one case where an awful lot of damage was done, I think, by giving pituitrin. This was in a primipara. A young physician gave her a big dose of pituitrin and the result was about the worst laceration of the perineum I have ever had to contend with. This is a drug that is very useful in certain cases, but it won't do to give it in all cases. Lots of cases do not need anything at all. There are other cases in which the pains are feeble in which it is a very valuable drug. But if you give it only where you want to hurry up labor, you are liable to do a lot of damage. I think it should very rarely be given in a primipara. If you have a patient in whom you know there is nothing in the way and you have feeble pains it is a most valuable drug. I usually get it in the ampules containing one c. c., and I usually give about half of one of those, never more, wait a while, and then give the rest of it if necessary. Given in that way you get very nice results in suit-

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able cases, but do not go to giving pituitrin to all women in labor.

Dr. Britt: I wish to thank the gentlemen for the discussion of the paper. The doctor asked what size doses I usually gave. That depends entirely upon the patient. If it is a multipara with full dilatation and the head pretty low down, I do not hesitate to get my chloroform ready and give a full dose. There is no danger in a full dose if you use chloroform freely, but I do advocate the very free use of chloroform and the holding of the head back with the hand to prevent too rapid expulsion and laceration.

I do not know whether I understand the doctor about giving it to primipara. I do not hesitate giving it to a primipara, but you certainly must use it very cautiously. I never give a primipara a full dose as the initial dose. Usually about one-third of one c. c. ampule will give very effectual pains. This will last twenty-five or thirty minutes, and then it can be repeated as indicated. I think it is very unwise to give a primipara a full c. c. at one dose, because it is apt to produce contractions that are very undesirable and apt to cause disturbances of the nervous system. I have had only one death that I could attribute to pituitrin, one child born dead which I am quite sure could be attributed to the pituitrin on account of the premature expulsion of the placenta. The placenta came immediately behind the child, and I do not think there is any doubt that the pituitrin was the cause of it.

Another point: we are cautioned in the text-books about giving pituitrin when you fear the appearance of convulsions. I have had more than one case that had considerable albumin in the urine, a rather high blood pressure, with some of the symptoms of approaching convulsions in a multipara in whom I was in a hurry to make a rapid delivery, and have given the pituitrin before the dilatation was advanced very far, although the cervix was dilatable, with good results. I believe we should make all efforts to expel the child as soon as possible, and after labor has set in I am quite sure pituitrin is the most effective measure we can use.

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PUERPERAL ECLAMPSIA.

W. A. Gresham, M. D., Russellville.

I am very glad and appreciative of the privilege of addressing the Alabama State Medical Association upon a subject today that is of much interest to me, and I dare say to many of you.

We are living in the age of preventive medicine, and the conservation of human life is no doubt the greatest and highest privilege with which mankind is intrusted. While our army and navy are fighting for our national honor, and we as a profession stand ready to respond to our country's call when needed, yet for the most part, ours is a peaceful mission. There is nothing of more importance to the welfare of the nation than the saving of the lives of our women and babies, and after all, there is no one who has a greater patriotism, or a deeper love of humanity than the every-day country practitioner. For him there is no bugle call, but only the telephone bell. No bands playing, flags flying or comrades to keep step to the music. With his carefully packed obstetrical bag, (for he must be ready for all emergencies) he starts on his long drive to some humble cabin home, and by the fitful light of a kerosene lamp ushers into the world a new-born American citizen. The successful efforts of the profession in preventing various diseases, and the wonderful cures of great surgeons have overshadowed the trials and tribulations in the life of the family physician in his daily and nightly task of delivering poor women who are carrying out the biblical injunction of multiplying and replenishing the earth.

Puerperal eclampsia is the result of some pathological condition occurring during the latter months of pregnancy, the diagnosis of which is rarely confused with hysteria. The attacks usually occur after the woman has been in labor for several hours. As to more complete points in the diagnosis, there is hardly a place to mistake the condition. During labor the patient will be progressing as nicely as one could wish, when she will suddenly begin to complain of blindness, or severe headache. This, in my opinion, is one of the most prominent warning symptoms for the physician to realize that his patient is about to go to pieces. The face is at first pale, later changing

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quickly to that of extreme cyanosis. There is a twitching of the muscles of the face which extends rapidly to all the muscles of the body. The tongue is always bitten unless protected. A more horrible sight cannot be imagined than a puerperal convulsion, so horrible it is that we frequently have all her friends desert her, the picture being more than they can stand. The attacks recur at varying intervals, and the experience can never be forgotten.

The cause of eclampsia remains almost as obscure today as it did some decades ago, while persistent and faithful workers eminent in our profession have sought for it. Renal insufficiency and autointoxication no doubt bear a heavy suspicion. The severe strains of labor produce cerebral congestion. Zangerneister has written much concerning the cause and prevention of eclampsia. His arguments sustain the assumption that hydrops of pregnancy is responsible for the attacks by involving the brain by pressure produced during severe labor pains. The early symptoms are those of cerebral pressure. The clinical symptoms of eclampsia lead us to think that pressure or congestion of the brain plays an important part in the principal cause. The preventive treatment we give is that of relieving congestion, and by such treatment we are often able to ward off convulsion, by watching for and combatting hydrops gravidarum. The various remedies resorted to all tend to reduce edema and cerebral irritation.

Inasmuch as we are of the opinion that eclampsia is caused by autointoxication, defective metabolism, failure of elimination and inactive emunctories, associated with renal insufficiency, it behooves us as responsible and intelligent practitioners to see that every expectant mother coming under our care has as much instruction as is consistent with circumstances. I take it that eighty per cent of all obstetrical cases are attended by the general practitioner. The kidney, as we all know, is the principal organ we should watch. Frequent urine analysis should be done. Unfortunately there are many women who are totally ignorant of the fact that these conditions should be watched. If we are to do better and more intelligent work we should educate them, and take the necessary time to do so. The digestive system is taxed and should not be overburdened, for the appetite is frequently abnormal at such a time, and the woman takes more food into her stomach than she can properly assimilate. I notice that recent reports from German maternity

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hospitals state that owing to the scarcity of meats and fats, these are necessarily eliminated from the patients' diet, causing a great reduction in the number of cases of eclampsia.

In the early part of my medical career, unfortunately for myself as well as the patients, when confronted with this condition, having been taught the value of veratrum and the poisonous effect of the drug, I gave it in doses of six to eight drops as advised by most text-books, but to my disappointment the patient would continue to have just as hard and frequent convulsions. There is little in text-books concerning the use of this remedy, although it has long been used as a reliable and powerful cardiac sedative. Most authors give five to seven drops as a dose, but this falls far short of the effects we are looking for in this most urgent need. Nothing short of twenty to twenty-five drops given hypodermatically is to be considered in a case of eclampsia. It reduces arterial tension and cerebral congestion. It lessens in a marked degree both the force and rate of the cardiac pulsations. The lowering of arterial tension is due to depression of the vasomotor centers. Should the convulsions continue, repeat this dose within twenty or thirty minutes until the pulse falls to sixty or sixty-five. Venesection is advised by many, but is often difficult owing to the plethoric condition. I often find it near impossible, without a good deal of mutilation, as the arm of these patients will be so rounded out with subcutaneous fat, it is a difficult matter to cut down on a vein with precision. During convulsions protect the tongue with cloth rolled around any convenient instrument, and place between the molars. This is decidedly better than the uncovered instrument. As quickly as possible give a large dose of calomel and sodium bicarbonate, later followed by salts. One-fourth of a grain of morphine should be given to assist in quieting the restlessness of the patient. As quick delivering is necessary to save the life of the child, we wish to empty the uterus as early as possible. The patient should be watched for several days. Some surgeons are in my opinion rather hasty in resorting to Caesarean section. While this operation is sometimes necessary and can be successfully done in a well-equipped hospital, however, it is a perilous undertaking when resorted to in an isolated farm house.

In Norwood's tinct. of veratrum given hypodermatically in doses of 20 to 30 drops, repeated often as indicated, we have a most effective remedy.

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THE CAUSE AND MANAGEMENT OF PUERPERAL ECLAMPSIA.

R. S. Hill, M. D., Montgomery.

I am today the victim of a violent cold, and I do not know whether I will be able to say the things touching this subject that I have in mind. I shall beg your indulence in my effort to do so.

Noting my position on the program, being the last on the program, of the symposium of obstetrics, I purposely refrained from preparing a paper, thinking that if I read a paper, I would in all probability repeat much of what had been said by those who preceded me. In other words, I decided I would act the part of what the old negro calls an exhorter. He was asked to tell the difference between an exhorter and a preacher. "The preacher is a man," said he, "who takes his text in the seven stars and there he stands; the exhorter is a man who takes his text in the seven stars and travels through the elements." But I find on account of the absence of several of the essayists the program has been changed, and consequently my plans are in a measure disarranged.

There is, gentlemen, so much that might be said on this important subject that I shall not dare undertake more than a brief reference to some things that appeal to me as of particular interest. Many theories have been advanced to explain the cause of eclampsia, which simply means that no one of these theories has proven entirely satisfactory. To my mind it seems clear that the light of present day, advanced medicine reveals distinctly the general, underlying cause of this condition to be defective reserve force in the woman, a subnormality of the potential energy that is required or that is called for by the pregnant state. Every system in its every part, yes, its every cell, has a reserve force, has a potential energy that is called forward to meet the frequently and intermittingly increased demands that are made upon it in the life that we live.

To illustrate, the muscles of our legs have a reserve force, they have a power to meet an emergency that requires unusual

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speed, such as to catch a moving street car or to run away from a man with a pistol. Now, if our muscles did not possess a reserve force, then they could do no more than a certain, specific, accurately regulated amount of work each day, and that amount of work would be measured exactly by what they are accustomed to doing daily. And so with the function of the organs concerned in digestion. If our digestive forces could take care of only a specific amount of food which must be exactly the same taken each day, then our digestive organs would not be able to take care of an extra large meal that we might eat, and consequently we would probably suffer severely as a result of taking this increased quantity of food. We know, as a matter of practical experience, that even with a good digestive reserve force, if we tax our digestion too far, we suffer, which means simply that the digestive reserve force has failed to meet the demands made upon it. We might recall many other experiences in life to show the necessity of every part of the individual having a reserve power, having an emergency force, as it were, but for our present purpose it is unnecessary for us to do so.

Now what happens in the pregnant state? What do we find? We find the mother called upon to do what? Not only to take care of the metabolism of her own body, but to safeguard the metabolism of the developing child. We know that in the process of metabolism, in the chemical changes that take place in our body, that there are many toxins formed, that some of these toxins are converted into inert substances through the activity of certain organs, that others are eliminated by the kidney, by the skin, etc. The mother's organs must dispose of not only the toxins of her own metabolism, but many of those of the developing child, and there is no tissue more active, there is no tissue in which there are greater physiologico-chemical changes than embryonic tissue. In short, we may say the developing child requires of its mother not only an abundant, but an increasing amount of properly prepared food to sustain the increasing physiologico-chemical changes that are taking place in its tissue, and also makes an increasing demand upon the organs of her body to dispose of the resulting, increasing toxins generated by the changes in its growing tissues. The vital functions of the mother's organs are taxed by pregnancy more than by any other condition.

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The speaker just preceding me referred to the increased appetite of pregnant women. This is a provision of nature that the mother might take more food than her own tissues require to meet the increasing demands for nourishment of the growing child.

Now if the mother's digestion is incapable of taking care of its increased food-stuff, if she has not the digestive reserve force to meet the demands that are made upon her to nourish herself and her developing child, she may become reduced in flesh and strength, and have born to her a child of subnormal vitality, or worse, she may be made sick by the absorption of poisonous products, overpowering to her agents of protection, from the intestinal tract resulting from chemical changes in the imperfectly digested food.

Now what is true of the organs of digestion is true of other organs belonging to the mother. Her organs must take care of not only the increased toxins resulting from the increase of the chemical changes of the tissues of her own body but toxins coming into her circulation from tissues of the developing child. The thyroid, the adrenals, and other structures are possibly gravely concerned in the protection of the mother, but the organs that stand out prominently in our minds as chiefly concerned in this work are the liver and kidneys. This is probably because the pathological changes are most markedly manifested in their structure. The liver changes certain toxic materials into inert products and prepares others for elimination by the excretory organs, chiefly the kidneys.

Now then, if the liver is unable to meet the increased demand, if it lacks sufficient reserve force, these toxins pass on to the excretory organs, chiefly the kidneys, in increased and perhaps overpowering quantity. They accumulate in the system and produce pathological changes in the tissues of the body, in the structures of the very organs, liver and kidneys, which are chiefly charged with their destruction and elimination. The pathological changes in the liver are not the primary condition, the cause of the eclampsia; the pathological changes in the kidney are not the primary condition, the cause of the eclampsia. The primary cause, gentlemen, is simply a defective reserve force, a lack of potential energy, in the mother to meet the increasing physiologico-chemical demands of pregnancy.

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Now what of our clinical observations? Do they support the theory we are trying to present? I think so. Why? Because we find that puerperal eclampsia is more common in the primipara, in the woman whose reserve forces have never been put to the test. After a woman's reserve power has been tested, and it has proven equal to the demands of pregnancy we are warranted in looking with increased assurance to her passing safely through future pregnancies. Again, a woman, as a primipara having eclampsia, is less liable to have it in subsequent pregnancies than she was in the first. Why? Because the reserve force has been built up by the first pregnancy. We know, as a general proposition, that our capacity to do a thing is increased by the doing of the thing; and, therefore, when the first pregnancy takes place the woman's reserve force is built up and is better able to meet and overcome the demands made upon her in subsequent, like experiences. Of course, the probability is that better care will be taken of a woman after one experience with eclampsia, and this will contribute towards lessening the risk of another such experience.

We find further that if the child simply dies, not be delivered, but dies in the uterus, that the chances of the mother's recovery are increased. Why? Because the toxins that are formed by the metabolism of the child's tissues cease with the death of the child, and then the mother only has to take care of her own toxins and those accumulated before the death of the child. Of course it is most desirable to have the child delivered.

Again we find that puerperal eclampsia is decidedly more common in a twin pregnancy than a single pregnancy? Why? Because there you have the toxins of two children entering into the circulation of the mother to overcome the reserve forces of the mother. I repeat, gentlemen, it is quite plain to my mind that the primary cause of eclampsia is not to be found in the placenta, is not a diseased condition of the kidney—of course, if a kidney is diseased it more readily breaks down under the strain—it is not a diseased condition of the liver, but is in general terms a lack of reserve force in the woman to meet the increased demands of pregnancy.

If our contention as to the cause of eclampsia is correct, then the management of the condition is quite clear. In the first place, when we have a pregnant patient we should do that

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which we are repeatedly asserting should be done and which we are not doing. That is, we should take charge of the woman from as early a date as possible and watch her throughout her pregnancy. I do not mean to criticise the profession severely for not doing this. The people are in a large measure responsible for their failure in this regard. They do not think they need a doctor to prevent disease, but only to cure disease. If they would only wake up to the fact that they need a doctor more to prevent disease than to cure disease, our work would be more satisfactory, their health better, and their deaths fewer. If we could keep in touch with the pregnant woman from the beginning, the great majority of cases of eclampsia could and would be prevented.

In pregnancy the woman's digestion should be safeguarded as far as possible, not by starvation, but by giving her the kind of food that can be easily assimilated, that kind of food from which she can get the greatest amount of nutriment at the least expense to or tax on her digestive forces. Chief among the articles of diet is milk. Milk is the only diet we know of that will sustain life almost indefinitely. In passing I can not stress too much the importance of drinking water freely and of keeping the bowels active.

We come now to the curative treatment of eclampsia. What should we do? There have been a thousand and one preparations used to control the convulsions. I need not go into their discussion. The woman's system is saturated, as it were, with toxins, and the indication is clearly to bring about their elimination as speedily as possible. If convulsions begin or continue, notwithstanding the use of sedatives and the elimination treatment, then what? Interruption of the pregnancy. How should the pregnancy be interrupted? This is a great field for discussion. But I have already detained you beyond the time allotted an essayist.

The motion was made and carried that Dr. Hill continue the discussion.

Dr. Hill, continuing: This is very kind of you, gentlemen, and I thank you very much.

In the multipara I quite agree with the advocates of delivery by the obstetrical forceps. In multipara, particularly where the

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cervix is dilated, delivery with forceps is beyond question the best thing. But eclampsia is more frequent in primipara. In a case that recently came under my observation as a consultant there was no dilatation, no uterine pains, no beginning labor, and what were we to do? This brings up the question of Caesarean section, a most important question. I do not advocate the reckless resort to Caesarean section. I recognize that in the home where most of these cases will be managed Caesarean section is out of place. However, let me stress the importance of taking advantage of the facilities of a well-regulated hospital, if available. I rather feel that in the home the interest of a primipara with an unobliterated and even undilated cervix is best subserved by bleeding and the use of medicinal agents.

To deliver a primipara before the cervix is dilated is a very difficult and dangerous thing. We should be slow to undertake it. Vaginal Caesarean section does not appeal to me. In my hands—and I have had quite a few cases brought to the hospital—before a vaginal examination was made I found abdominal Caesarean section very satisfactory. It is quite an easy operation. Hemorrhage ordinarily need give no concern; indeed, more than usual loss of blood may prove beneficial in getting toxins out of the woman. This seemingly was true in two of my cases, Caesarean section, however, will have a high mortality if repeated vaginal examinations have preceded the operation. These examinations carry germs of infection to or into the opening of the cervix from where they more readily find their way to the fertile field furnished by the operation. The germs may be picked up by even a gloved examining finger as it enters the vagina, for the difficulty of sterilizing the vulva and vaginal outlet is very great. Caesarean section, therefore, must not be an operation of last resort, but an operation of election.

There is one question that comes up in my mind, and my experience has not been sufficiently long for me to answer it to my own satisfaction. That question as to the scar in the womb giving trouble in subsequent pregnancies. Years ago we experienced a great deal of trouble in the union of our abdominal incisions. We had hernia after hernia following our abdominal operations. We do not have those things now because we know better how to close our abdominal incisions. But do we know how to sew up the uterine incision so as to insure against

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rupture in subsequent pregnancies, and if sewed up properly, is the condition of the uterine tissue such as to make an imperfect union? In other words, the woman's tissues are, as it were, water-soaked, and unhealthy from the effect of the accumulated toxins. Does the uterine structure share in the unhealthy state? If so, what effect will it have on the healing of the uterine incision? Those are the questions that come into my mind, and my personal experience has not covered a sufficient number of years to enable me to form a positive opinion regarding them.

Then there is the quetsion as to whether the diseased condition of the wall of the womb, which corresponds to the diseased condition of the other tissues of the body, will form a fertile field for infection after a Caesarean section by germs that are in the vagina and vulva. I dare say it will. I venture to assert that a woman is less liable to resist infection after Caesarean section for puerperal eclampsia than after Caesarean section for obstruction to the passage of the child. To my mind this is another element of danger attending Caesarean section in eclampsia.

Now as to what shall be the future treatment of women who have had Caesarean section. Does one Caesarean section spell Caesarean section for each subsequent pregnancy? I do not believe as a rule it does. I would be inclined to rely on the forces of nature, unless the personal history of the patient was such following her first Caesarean section as to cause a suspicion that there was an infection which probably interfered with the proper union of the wound through the uterine wall. This infection may be so mild as not to threaten the life of the woman. In other words, if I should do a Caesarean section on an eclampsia patient and that woman should develop a slow fever with a retarded recovery that could not otherwise be explained, I would feel that something had gone wrong in the healing of the uterus and that a good, firm and positive union would not be secured; and, therefore, in subsequent pregnancies I would be inclined to more readily subject her to a Ceasarean section than I would had her convalescence after the first Caesarean section been smooth and unsuspicious.

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DISCUSSION.

Dr. W. R. Jackson, Mobile: I consider this subject a surgical subject as well as a medical one. You know it is conceded now that there are certain organs of the body that are motor; they are the driving organs—the brain, the thyroid gland, the suprarenal glands, the liver, the pituitary and the muscles are considered motor organs; they are the driving organs of the body machinery. Now in this condition of uremic intoxication —we used to call it; we call it the toxemia of pregnancy now— I say in this condition we have an abnormal toxin, a motor toxin; it is a toxin that excites the motor neurones, and if we get more stimulation of the motor neurones than the physical resistance can stand it explodes immediately. We have uncontrollable convulsions. We do not know the nature of this toxin; we call it a multi-toxin, the result of incomplete destruction in the liver, and if it fails to destroy this toxin it excites the motor neurones of the brain and we have a convulsion. We often have these convulsions in primipara and in plural pregnancies, and therefore it is important not to use pituitrin. Hyperexcitability would contraindicate the use of any of these motor stimulants.

Dr. M. C. Thomas, Blocton: I have most thoroughly enjoyed the essays. I think the question of puerperal eclampsia is one that has not received the attention of the medical profession that it should have. To epitomize, it seems to me that the question once and for all is a matter of education of the physician as well as the patient. Dr. Hill beautifully illustrated the fact that it is a question of potential energy in the individual patient. That being true, if we had that patient in the beginning of the pregnancy and watched her carefully, and, as he well said, at or just preceding confinement, I do not know of anything else better than a time properly selected and when other remedies fail, do a Caesarean section. This is indicated, if at all, certainly before the patient has been subjected to innumerable vaginal examinations and when it can be done under proper aseptic conditions, otherwise or if after repeated vaginal examinations and the membrances have ruptured it will be a serious proposition.

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Dr. L. C. Morris, Birmingham: I have been immensely interested in these valuable contributions to this subject, and I simply want to mention one thing that was not clearly brought out in either the discussion or the papers, and that is the question of a differential diagnosis between what we have considered as a true toxemia of pregnancy and a simple puerperal eclampsia. Our conception of a true toxemia of pregnancy has been that form of toxemia which leads to autolysis or fatty degeneration of the liver, and which we believe is invariably fatal unless the pregnancy is interrupted. A woman with eclampsia or the pre-eclamptic state under proper treatment frequently goes on to full term and normal delivery without interference. It is as impossible I believe to make an absolutely positive early differential diagnosis between the pre-eclamptic state and the true toxemia in all cases as it is to determine in cases of uterine infection which ones are going to be lethal requiring early hysterectomy to save life, and which ones by ordinary treatment we may be able to relieve. I believe that unless a certain percentage of cases of pregnancy are interrupted before you can be absolutely sure that it is a really true toxemia, you will lose a certain number of cases which you had hoped were ordinary eclampsia.

Another question which comes up and which I think of paramount importance is at what stage should interference be done in those cases? Have we got any group of symptoms or any standard conditions which justify interference? I do not believe so. I think the point brought out by Dr. Thomas and by Dr. Hill of the careful watching of those cases during pregnancy is most important. I believe we have got to make more frequent urinalyses than we have been doing in the past. I believe the obstetrician who makes a urinalysis during the first six months only once a month may overlook the condition until serious symptoms have ensued. I have seen cases absolutely free of albumin ten days before they had eclamptic convulsions. The only way we can catch those cases in time to carry out the preventive treatment is by frequent examinations and the early detection of albumin in the urine, which is the first sign.

Another most valuable thing which was mentioned by the essayist is the question of blood pressure. I believe that is a valuable aid in determining which cases shall be terminated and which ones we shall try to tide over and treat symptomat-

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ically. We do know that when a woman reaches the point where the manifestations of toxemia are so great that it produces a convulsion the chances for the child as well as the mother are definitely less by any operative procedure for delivery than they would have been had we done this prior to the convulsive state.

Another question is: having determined, either by the presence of a convulsion or by the existence of certain symptoms that interference is necessary, what shall we do? Gentlemen, that is simply a question to be determined in each individual case. There are primiparae in whom I feel sure delivery per vias naturales is more dangerous to mother and child than delivery by Caesarean section. There are other cases, particularly those cases in which there is a marked edema of the lower abdomen where delivery through the vagina should be done. I saw a case a few days ago, a multipara with marked edema, with a dilatable cervix and enormous amount af albumin. The preferable way in her case was delivery per vias naturales. There are others in which delivery by the natural channel is more serious both for the mother and the child.

Dr. Hill brought out a very interesting point in the question whether the existence of this toxemia has led to a lowered resistance on the part of the patient and whether she is more likely to have an infection following a Caesarean section than if she had a mechanical obstruction. My experience has been that there is no more liability to infection; judging from my series of six cases. In one of the six cases of eclampsia or the pre-eclamptic state which I have operated on has there been any evidence of infection.

I do not believe there is any question in the world that one Caesarean section, no matter how thoroughly we may close the uterine wall, does predispose to rupture of the uterus at a subsequent pregnancy. That has been shown by Dr. Davis, of New York, who reported a series of cases in which rupture has followed Caesarean section. I have had two cases that have been subsequently delivered by the natural channel without rupture of the uterus.

Dr. Hill: I have nothing further to add except to refer to the matter of whether the condition of the tissues in puerperal eclampsia makes a patient more prone to infection than in a

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normal case. I, too, might say that I have not observed that that was true in the experience that I have had with the operation, yet from the natural condition that we find in these patients it seemed to me we should be led to believe that there would be an increased liability to infection, and I have often wondered in those cases that have been reported of subsequent rupture whether there was not an imperfect union of the wound, not because of any faulty work on the part of the operator, but as a result of a mild form of infection that took place in the line of the wound that hindered a proper union. As I say, in my private work, as has been the experience of Dr. Morris, I have not observed that this was true, but I have just felt that maybe I have been fortunate.

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THE LACTATING WOMAN—HER CARE, DIET AND HYGIENE.

HARRIS P. DAWSON, B. S., M. D., Montgomery.
Visiting Pediatrician to St. Margaret's Hospital.

On account of the great improvement in the last few years in artificial feeding, there are many women and a few physicians who seem to have lost sight of breast feeding. Until the eighteenth (18th) century, babies were breast-fed by the mother or a wet-nurse. Up to the end of the fifteenth (15th) century suckling was continued for two (2) to three (3) years. By the end of the seventeenth (17th) century the duration of the suckling was reduced to eighteen (18) months to twenty-four (24) months, the child being weaned when all the teeth were cut. Shortly afterwards, weaning was advised at eighteen (18) to twenty (20) months, and since then the period of nursing has been gradually reduced, until at the present day it is rarely continued under medical advice, beyond nine (9) months. If a woman is healthy and secretes milk, there can be no doubt that she should nurse her baby, especially during the first three (3) months of life.

It is generally recognized that the natural food for a baby is human milk, that breast-fed babies are more likely to live than are artificially-fed, and that, as a class, they are healthier, more vigorous and more resistant. There is a much greater mortality in the artificially-fed than in the breast-fed. There are a great many statistics to prove this, but I shall mention but a few.

In Berlin, where the character of the feeding of all living children is determined by the census, during the five (5) years, nineteen hundred (1900) to nineteen hundred and four (1904), only nine per cent (9%) of the infantile deaths were in breast-fed babies.[1] The Department of Health of New York City estimates over eighty-five per cent (85%) of all infantile deaths are in those artificially fed.

Of one-thousand (1,000) fatal cases of diarrheal disease investigated by the Health Department of the City of New York,

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in nineteen hundred and eight (1908), only ninety (90) had previously been entirely breast-fed.[2]

Now in order to bring about this breast-feeding, it is the duty of the physician to do all in his power to encourage maternal nursing and to promote its success. To do this he has to pay especial attention to the Care, Diet and Hygiene of the Lactating Woman. She should be impressed with the importance of breast-feeding, and told that fully four-fifths (4/5) of the deaths under one (1) year are in infants who are artificially fed. The expectant mother's health should be looked into, to see that she is free from genereal disease, tuberculosis, nephritis, or any infectious disease. Before her confinement she should be impressed with the importance of sleep, rest, fresh air, exercise, proper diet, the dangers of constipation, and of not drinking enough water.

The lactating woman, should be encouraged to eat a regular normal diet, which should be selected principally from cereals with milk, corn meal muffins and gruels, red meats, eggs, vegetables, stewed and raw fruits, and some milk. I wish, to here emphasize, the fact that women should not be filled up on milk, tea, coffee, malt preparations, or beer. These interfere with digestion and do not make the best milk for our babies. From one (1) to two (2) pints of milk a day, with plenty of water is sufficient liquid for most lactating women.

From the day a prospective mother places herself in the hands of a physician, it is his duty to forcibly impress her with the importance of maternal nursing and her ability to accomplish the act. The two main things which bring about breast-feeding, are regularity in nursing and the psychic elements. Phychic phenomena, doubt and fear; especially, that the milk-supply is insufficient in quality or quantity or both, are often responsible for the suspension of the flow. Such a case recently came under my care, and by persistent persuasion it was possible to carry the mother along for seven (7) months, the baby gaining from one-fourth (¼) to one-half (½) pound each week. This mother was seen when the baby was six (6) weeks old, and she came to me for a milk formula, as she wanted to wean the baby, on account of not having sufficient milk. During the seven (7) months of breast-feeding, there was not a week that she did not ask for a formula. Finally at the end of the seventh (7) month, when I wanted to start sup-

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plemental artificial feedings, she said no, that she had plenty of breast-milk.

It is a grave error, too often committed, to discontinue the breast at the first sign of indigestion in the new born,—an occurrence, so common, that it may almost be regarded as normal.

Shock, fright, or sudden joy may temporarily, but rarely permanently, impair the flow. Insufficient rest, a continuous round of social pleasures, excessive indulgence in alcohol, too much physical work and too little food, together with poverty, especially when the mother must go out to assist in earning her living,—all, by interfering with the proper metabolism of the maternal organism, inhibit or prevent the mammory secretion. Then again, the lactating woman can be helped, by giving proper attention to the breasts and nipples both before the birth of the baby, and during the first (1st) few weeks of its life.

In conclusion, I wish to say that if we wish to reduce our infant mortality, we must stop so much artificial feeding, and pay more attention to the Care, Diet, and Hygiene of the Lactating Woman, in order that she may be able to breast-feed her offspring.

1. Graham: Journal A. M. A., 1908, LI, 1045.
2. Holt: Journal A. M. A., 1910, LIV, 682.

DISCUSSION.

Dr. W. W. Harper, Selma: In regard to the paper of Dr. Dawson, which I think is a most timely one, Truby King, of New Zealand, in his experiments with guinea pigs discovered that unless he could give his guinea pigs one maternal nursing he could not raise them. They had to have one maternal nursing. This discovery of King has thrown much light on infant immunity. What did King find? He found that there were antibodies in milk which gave an immunity to the young and the sucklings could obtain this antibody only from its own mother and not from another mammal. This was a matter of tremendous importance because it proves the value of breast milk. If the mother is only able to nurse her baby once a day, let it have that one nursing. It is extremely rare, as Dr. Dawson has said, that it is necessary to stop maternal nursing. Frequently we stop it on too trivial a pretext—something has gone

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wrong, the baby probably simply vomits the milk. I recall a case in which the baby was vomiting its milk. The mother was healthy and had nursed her two other infants. The physician discontinued the breast because the baby vomited,—vomited malted milk, Mellens food, modified cows milk. There was nothing wrong with the breast milk but the baby had pylorospasm and the vomiting ceased when the pylorospasm was relieved. I recall another case (both of these cases were in the hands of good men,—they had discontinued the breast because they said the baby threw up what it nursed). This other baby ran the gamut of every form of feeding and still continued to vomit. At the end of three months it did not weight any more than it did when it was born. This was another case of pylorospasm. We gave big doses of belladonna and sodium citrate and the baby has gained from four to eight ounces a week. Do not stop the maternal nursing until you find the cause of the vomiting.

I am sorry I was unavoidably detained from the hall during the reading of Dr. Fellow's paper because it deals with one of the most important subjects now before the profession. Every summer there are numbers of cases of acidosis and when you get a well-marked case of acidosis, nothing saves the patient. I was talking to Dr. John Howland, of Johns Hopkins a year ago. I said, "What do you do for acidosis?" He said, "We have never been able to save a case—a true case of acidosis—in this hospital." In a recent paper, Dr. Howland reports several cases of acidosis—all fatal,—some dying two or three days after acetone had disappeared from the urine. He says that something happens to the brain cells which makes death inevitable even after an apparent recovery from acidosis. The condition is probably akin to ether narcosis in which Crile has shown that the lipoids of the brain cells are dissolved. If this pathology becomes rooted and grounded in your being, you will bend your energies to the prevention rather than to the cure of acidosis. Remember in every case of bowel trouble to start at once the bicarbonate of soda and do not be afraid to give it. Do not fool around with five grains, but give the baby from twenty to sixty grains every hour until the urine is alkaline. If it vomits, give it more soda. It will continue to vomit until the urine is thoroughly alkaline.

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What are the symptoms? Cherry-red lips, lilac colored cheeks and the odor of new mown hay on the breath, acetone in urine and, later, hyperpnoea. The breathing becomes more labored, the child rolls its head from side to side and throws one arm and then the other up and down like a semiphone. "Look out, danger ahead." Now examine the urine. If the child is a boy, the specimen is easy to obtain. Simply attach the tip end of a finger cot to a test tube with adhesive plaster and slip the other end over the penis. An infant generally urinates when it is nursing and a specimen can be obtained from a girl by sitting it over a shallow vessel while it is nursing. The test for acetone is quite simple. Some of you may not know the test. Take a test tube and put into it a few grains of sodium nitroprusside, then put into the tube two or three c. c. of urine and shake; now drop into it five or six drops of glacial acetic acid and slowly run in some aqua ammonia; if acetone is present there will be a lilac ring at the juncture of the two fluids.

My experience has been that you have acidosis much more commonly in cases of intestinal toxemia than you do in ordinary bacillary dysentery. My observation has been that where you have a good deal of blood in the bowel movement, you are not going to have as much acidosis as when you have the spinach stool. In those cases of mucous stools, the infection is in the ileum where absorption is most active and where the toxics are rapidly absorbed; these patients usually die from acidosis unless they are promptly soaked with bicarbonate of soda. They will probably stop vomiting after a while. If you cannot give the soda by mouth, give it to them by proctoclysis. If they cannot retain the proctoclysis, give the soda subcutaneously. Remember that when you heat a solution of bicarbonate of soda, you convert it into a carbonate of soda which is irritating and if you inject such a solution under the skin, you will cause sloughing. My experience has been that if you get Merck's or Squibb's bicarbonate of soda and use from a fresh can with a sterile spoon the solution will be sterile.

In acidosis there is a disturbance of the carbohydrate metabolism and I always give these patients a five per cent glucose solution with the soda. The glucose being the only form of sugar which can be absorbed from the intestinal canal and being

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the form which circulates in the blood, it is the only preparation of sugar that can be used.

In infants before the fontabelle is closed you can give the glucose and soda solution in the longitudinal sinus. Four to six ounces given in this way brings to life apparently moribund cases. After the fontanelle closes give the glucose and soda solution subcutaneously, intramuscularly or intraperitoneally. At Johns Hopkins the solution is given intraperitoneally, —about eight or twelve ounces.

These patients must have water, more water and yet more water. A child will stand food starvation but not water starvation. We starve these patients for twelve hours, but do not stop the water for a minute. If you will soak these patients with water, with glucose and with bicarbonate of soda, you will save many a funeral bill.

Dr. J. L. Bowman, Union Springs: I want to say a few words about Dr. Dawson's paper. It is on a subject that I have mentioned before this Association several times before. Our text-books on the care and treatment of diseases of children take up a great many pages on the subject of artificial feeding, but it is rare to find more than a page, if we find that, on the maternal nursing. And yet in my location the only reason why we ever have any artificial feeding is because we fail to secure the quantity of milk necessary for the baby or on account of the quality of the milk.

Dr. Dawson mentioned fear, and it seems to me and has seemed to me in the past year or a little more than fear on the part of the mother has been responsible more frequently for the mother failing to give the proper quality and quantity of milk to the baby than any other one thing. I recall now a patient of mine who, after I had failed, came to Dr. Dawson, and I think he found maternal nursing an equally difficult proposition, because he finally put the baby on artificial feeding. That mother was actually scared to death all the time she was nursing the baby, and I will state without exaggeration that when he gave that mother milk formulas and told her how to sterilize that food she worked twenty hours out of the twenty-four sterilizing the food. That is just the way she lived, and it was a day and night proposition with her, up at four o'clock in the morning and to bed at ten o'clock and afterwards.

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And so with these mothers with the first baby we find them frightened, afraid something is going to happen to that baby every time that baby cries, and as long as that fear is present that mother's milk is going to disagree with the baby.

However, outside of those cases, I find mothers whose milk contains too much fat, and I have found in some of them, with all the dieting that I could do, I never was able to reduce that fat so that the baby did not pass the greenish stools with saponified cream in them, as shown by the fact that these lumps were dissolved by ether. I have found others that with all I could do it was curd—casein—instead of fat. I have found others where I thought it was too much sugar. I was not chemist enough to test all the milk to find out just what was the cause. But I found this, that all I can do in the way of diet and care of the mothers I fail to secure results, and our literature at this time is very much wanting in information along this line, and I wish and have wished for a number of years now that the next man who writes a text-book on babies would put in three or four pages on the diet and care of the mother in case of certain conditions of the milk that disagree with the baby.

Dr. J. H. Fellows, Pensacola, Fla.: I would like to say just a word regarding Dr. Dawson's paper. I heartily agree with what he said about nursing infants. I do not think they should be weaned too early, but I do not think we should go to the other extreme and nurse them too long, because it keeps them from getting the food they need, and if they should have an illness they haven't sufficient vitality. I do not nurse them longer than fifteen months if I can avoid it, and never that long unless it is summer.

Regarding the diet, I do not think that the doctor should go in the home and prescribe a certain diet that the mother possibly has never been used to and that will upset her digestion and the baby's digestion, by laying down certain fixed rules. But I would give this mother what she has been accustomed to, except a little bit more of it, but I believe if you go there and prescribe certain cereals and various meats that she has not been accustomed to eating you will upset her digestion and she will have trouble with the baby.

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Dr. Reid, Birmingham: I would like to ask in regard to the cases where the mother is nursing a child and becomes pregnant again. That happens occasionally. What is his advice and his procedure where that happens in four, six, eight or ten months?

Dr. Fellows: There is one thing I would suggest. I certainly would not push the soda after the urine is alkaline. That is very important. I usually do not give it quite so frequently; every four to six hours is enough; a drachm to the glass is about all he will be able to take care of, and when the urine becomes alkaline leave off for a half day, and when it becomes acid start again.

Dr. Dawson: I regret very much that I was detained and was not able to hear Dr. Fellows' paper, and I enjoyed what Dr. Harper had to say in regard to our infantile diarrhoeas of the various types and also about acidosis. There is one thing he did not bring out strongly enough. That is, at this season of the year when we are having our infantile diarrhoeas, of all types—fermentative, infections or what not—that these children undoubtedly die from acidosis. Death is not due to the condition of the diarrheoa or the particular organism that you wish to try to isolate, but it is due to the acidosis.

Now there is one thing that I wish to condemn, and that is when you see a baby going through the symptoms which he described of becoming red-lipped, a pinched expression around the eyes, slightly cyanotic, with tossing of the head and a little nausea, to think you are going to give calomel and stop the condition. Numbers of you have tried it; you say, "Give some small doses of calomel." Nothing is going to help except giving bicarbonate of soda to the point of alkalinizing the urine, just as Dr. Fellows has said. I do not believe in giving it too long; examine the urine and if it is alkaline, stop the soda.

Then in regard to what Dr. Fellows said about the prolonged period of nursing infants. I think probably he misunderstood part of the paper in which I said it was usually the custom to begin supplemental feeding with breast-fed babies about nine months, and it was not the intention to breast-feed these babies eighteen months or two years. We try to give some form of artificial feeding in the seventh to ninth month providing it

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does not come in the months of July, August, or September.

Now in regard to what Dr. Bowman said about fear. There is no doubt that fear, with irregularity of nursing, has a great deal to do with the mother not giving her baby the proper amount of maternal milk. The case which he just cited is very clear to my mind, and if that woman had worked equally as hard to keep her breast milk and not been so frightened that she probably was not going to be able to nurse the baby, I believe she would have been able to nurse the baby longer than she did.

In regard to the question of pregnancy occurring while the mother is nursing her infant, I think it is generally accepted that as soon as we are pretty positively sure the mother is pregnant the baby should be weaned. And you will find when you are trying to find out whether the mother is pregnant and the baby has nursed three or four months and the baby is having green stools, is fretful and not gaining properly, then probably it would be a good idea to supplement one or two feedings of some artificial formula of cow's milk. By doing that you are putting the baby in a position where you will not have to take the breast milk away from it at once. You will probably be able to give it three artificial feedings of cow's milk and three feedings of breast milk.

In conclusion, I wish to say that the question of continually encouraging the mother is absolutely one of the most important things about the question of breast feeding. If you keep telling her the baby is going to gain, keep on hammering, each week getting her up to where it is taking a little bit of breast milk, you are likely to succeed. I think that is a very important point.

In regard to the fats and sugars of breast milk, you can project around one way or another with them, but do not jump off of the breast. Keep on with the breast milk, and you will save the baby at the end of a year if you will continue with the breast feeding.

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ACIDOSIS IN INFANTS AND CHILDREN.

JAMES H. FELLOWS, M. D., Pensacola, Fla.

Morbid physiology rather than morbid anatomy seems to be occupying the minds of medical men today. This means that clinical facts which were not known before are being revealed.

A disturbance of respiration does not necessarily mean that there is a disease of the pulmonary structure. It has been demonstrated that the respiratory center is stimulated by an excess of carbondioxide in the blood. The blood as we know is normally slightly alkaline; carbon dioxide is an acid. Hence if we have an excess of carbon dioxide circulating in the blood we would expect some change in reaction. Any other substance of acid nature would produce a similar change.

Incomplete combustion of the products of metabolism with the accumulation of carbon dioxide in the blood will tend to bring about an increased pulmonary ventilation. This increased pulmonary ventilation is one of the first clinical evidences of an acidosis, and was so clearly marked in a case I recently saw that the mother asked the explanation of the "panting." To be sure it is better and more scientific if we call in the laboratory apparatus to help confirm our opinion, but I believe that this is no more essential than the clinical thermometer to tell that a patient has an elevation of temperature. The apparatus I use is the one described by Marriott. It is simple, inexpensive and is sufficiently accurate for practical purposes. It is far easier to handle than is the Van Slyke apparatus, though not quite so accurate. It requires no special skill and can be used by any one in general practice as easily as can the Faught or Tycos Sphigmomometer. It is described by Marriott about as follows: An ordinary hygea nursing nipple with a sheet of rubber tissue about 8 by 10 fastened over the lower rim by means of rubber cement and adhesive plaster. The tip of the nipple is cut off and a short glass tube about three-eighths of an inch in diameter is inserted in its place. In making a collection of alvolear air a rubber bag of at least 500 c. c. capacity

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is connected with the mask and partially filled with air by means of an aspirator bulb. The neck of the bag is closed off with a pinch cock or with the fingers, the mask is placed over the nose and mouth of the infant preferably at the end of expiration, the rubber tissue is closely drawn around the face so as to prevent the escape of air. Respirations are allowed to continued for twenty-eight or thirty seconds. At the end of expiration the mask is removed from the face and the air analyzed immediately.

The acidosis with which I think we come in contact with most frequently in infants and childen is that accompanying the intestinal disturbance such as the diarrhoeal disease and the so-called intestinal poisoning in which there is often obstinate constipation. Acidosis should no more be regarded a clinical entity than an elevation of temperature. It may be described as an acid intoxication of the body; is accompanied by a reduction of the carbon dioxide tension of the alveolar air, an increase of the hydrogen iron concentration of the blood, e. g., a shifting of reaction toward acidity, and the visible air hunger or hyperpnea (Howland & Marriott).

In acidosis accompanying the diarrhoeal disease oxybutyric and diacetic acid are not found in any greater excess than they are sometimes in normal urine, possibly due to the diminished activity of the kidneys which fail to take these substances from the blood. The urine is often very scant, especially in the two intestinal conditions mentioned above. This was very clearly demonstrated in a case of intestinal poisoning accompanied by an acidosis that I had in February of this year: Isabel C., a six and one-half year old girl had been ill two days with nausea, vomiting and obstinate constipation. This was all the mother had noticed. Patient complained of no pain, temperature was 99 F. Physical examination was negative, other than the toxic appearance of the patient such as staring of eyes and pinched expression with air hunger or forced rapid breathing. I asked for a specimen of urine and it took forty-eight hours to get four or five ounces.

As to the cause of acidosis much has been said and but little is known. It is probably the result of a perverted metabolism (whatever this may mean) and is liable to occur in many diseases. Howland and Marriott say it may result when abnormal acids are formed in excess in the body and when the acids nor-

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mally produced are not excreted by the kidneys. In the diarrhoeal disease the loss of bones play a part. Many other causes are advanced but these seem most tenable in intestinal conditions accompanied by an acidosis.

Probably the simplest method of diagnosing an acidosis at present is to determine the carbon dioxide tension of the alveolar air (Marriott Method) and this should be done where practicable, but if not, I believe one should not hesitate to use means to combat an acidosis where there is evidence similar to the following: Nausea and vomiting usually at the beginning of the attack, which are sometimes quite persistent, marked prostration, often staring of the eyes and rolling up of the eyeballs, the lips look pinched and the child appears toxic and often in a semi-comatosed condition. The temperature usually ranges from subnormal to 101 F. or may go higher. The skin is clammy and the tissues have a doughy feeling; hands are usually cold and have a cyanotic or purplish tinge. The accessory muscles of respiration are brought into play amounting to what has been called "Hyperpnea," or air hunger and this latter is practically always present in the more severe cases. Tympanities was absent in the cases I have seen and there is usually found the boggy or doughy condition of the abdomen. The urine is diminished, and there is usually an increase in the leucocytes.

Prognosis: In cases I have observed where the alveolar air was around or below fifteen m. m. (scale of Heynson, Westcott & Co.) the outlook is exceedingly grave, and have never seen a case recover where the alveolar was below 15.

Treatment: This is simple and should be vigorous and continued until we are sure we are safe. As a preventive measure I use soda bicarbonate *in any condition* in which I think an acidosis is liable to occur, using a drachm to a glass of water and letting patient drink freely. This I continue until the urine is alkaline. If acidosis is present and there is marked prostration I do not hesitate especially in infants to use a three per cent soda bicarbonate solution subcutaneously and in extreme cases have given a 5 per cent solution into the superior longitudinal sinus with excellent results. One should surely be careful after sterilizing the solution to pass a little carbonic acid gas (which can easily be obtained at the ordinary soda fount) through the cold solution to remove the carbonates or other-

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wise you may get a slough when giving it subcutaneously. When all of the carbonates are removed a little phenothalin will not give a color reaction.

I usually use not less than a hundred c. c. every four to six hours until urine is alkaline.

I wish to say in conclusion that while I can not stress too heavily the prevention of an acidosis or its vigorous treatment should it occur, we should not forget that there is an underlying condition which demands our attention also. I feel sure that I am having better success in the management of summer diarrhoeas and cases of intestinal poisoning since I have begun the use of alkalies early.

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WEANING AND DIET IN SECOND YEAR.

ALFRED A. WALKER, M. D., Birmingham.

This is a subject of the utmost importance, especially that which has to do with the diet of children in the second year. Parents and, unfortunately, physicians are too prone to adopt an attitude of false security once a baby is weaned from the breast, and consequently we have as a large part of our practice at this time of life, patients whose illness is directly caused by faulty feeding. This faulty feeding, whether due to ignorance or to carelessness, gives rise to the dread which parents have for the second summer, especially here in the South.

There are several common errors usually made in the feeding of children during the second year. First, there are errors of overfeeding, and especially too frequent feeding. This is responsible for very much of the chronic indigestion seen in childhood. The practice of allowing children to eat any and everything at any time of day, with absolutely no regularity, is indeed pernicious. I am personally of the opinion that the endeavor should always be to feed three meals a day allowing at most between meals a glass of milk with a piece of cracker or zweiback.

Another quite common error is underfeeding at this time of life. How often we see small, undernourished and anaemic babies, perhaps eighteen months old, who are still getting most of their nourishment from the breast, with a taste, perhaps, of everything the mother eats. We have all had experiences with this type of patient, and know how often it is that difficulties are met with when we try to take these babies off the breast and make them take a well balanced diet which is compatible with their caloric needs.

In this connection, I want to say that the caloric needs of infants cannot be met by exclusive breast feeding after the twelfth month, and it is my experience among the better class of women, especially in the cities, that this caloric need is rarely met after the eighth month when reliance is placed on exclusive breast feeding.

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Now, the above are what we might call errors of quantity and method, and while they are responsible for many of the ills of early childhood, they do not cause the fearful infant mortality which is always with us, and which is largely preventable. This annual slaughter of the innocents is due, for the most part, to that ever present foe to mankind, namely, germ infection.

I am firmly of the opinion that we have at our disposal a preventive remedy for fully 75 per cent of the deaths occurring in the second summer, and that remedy is to allow no milk which has not been rendered sterile by thorough boiling. We are all familiar with the battle which has been waging between the pediatricians of the country on this subject of boiled milk. Many have been the objections raised by the anti-boilers, the most common objections being that boiled milk is responsible for scurvy. This objection is met by the other side with the admission that boiled milk does cause scurvy occasionally, but this more or less theoretical bugbear can be avoided by the giving of a daily ration of some fresh fruit juice. "But," say the anti-boilers, "boiled milk causes constipation." This is also admitted, but instead of being a valid objection to its use, it is a distinct advantage over what is liable to be the result of raw and infected milk feeding.

How many times have we prayed for constipation in our patients who are the victims of infectious diarrheoa caused by feeding raw milk. In other words, as long as such simple remedies as milk of magnesia, glycerine suppositories or plain warm water and a syringe are obtainable, we can overcome constipation, troublesome though it may be.

It is my opinion, and my experience has borne me out in this opinion, that the article of diet which causes the great majority of infant deaths, due to what the laity calls "summer complaints," is sweet milk which necessarily forms the greatest part of the dietary in the second year of life. This is not to be wondered at when we realize that sweet milk is one of the best culture media we have for the growth of pathogenic bacteria.

We all know that it is next to impossible to obtain a sterile milk, or a milk which even approaches sterility, and, if there happens to be pathogenic bacteria present, they multiply to prodigious proportions in a very short while, especially in hot weather. The rules of various Boards of Health for the issu-

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ing of a certificate to a dairyman who wishes to supply certified milk emphasizes this fact. Our Board of Health in Birmingham allows a bacterial count of 15,000 in winter, and 20,000 in summer, and I am informed that even with this liberal allowance, it is almost impossible for a dairyman to live up to the conditions day in and day out. This is true especially in the South, and I wish to say here, that my remarks are applicable especially to conditions here in the South.

There is yet another way to avoid this dangerous pathogenic milk infection which I wish to speak of, and that is to allow no sweet milk whatever in the dietary, and in its stead use buttermilk.

I have been using this method of feeding for several years now, and I don't recall that I have ever seen a case of infectious diarrheoa in a child who was being fed in this way. We all know that pathogenic bacteria do not survive in milk which has been treated with lactic acid producing bacilli.

The way I am in the habit of using this lactic acid milk in Birmingham, where the patient has more or less trouble in getting good buttermilk commercially, is to use as a starter the liquid culture of the Bulgarian bacillus and have my patient plant two quarts of milk every day. It is not necessary to use a new culture every day, but a little of the milk of the previous day can be used. In my hands, this buttermilk feeding has not only proven to be good in a prophylactic way, but is perhaps the best treatment for the great majority of the cases of infectious diarrhoea. I hope, in some future paper, to give my experience with buttermilk in this connection.

Referring now to weaning. As I have said in an earlier portion of this paper, practically no infant will thrive satisfactorily on exclusive breast feeding after the twelfth month, and a large proportion of our modern babies must have their feedings supplemented at about the eighth month. In weaning a normal baby, several things must be considered. First, the weaning must or should be, if possible, gradual. Second, a formula comparatively weak for the age of the infant should be given for a short time, and if well borne, it can be rapidly strengthened until straight milk is given. Third, it is advisable to start weaning in the cold months of the year so as to get the infant thoroughly adapted to the artificial feeding before hot weather sets in.

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Speaking generally, the method to be followed in weaning a normal infant at from 9 to 12 months of age is to begin with a feeding once a day of a simple dilution of two-thirds whole milk and one-third water, to which has been added a small amount of sugar, the whole mixture to be boiled. This daily feeding should preferably be given from a cup and the child taught to drink. If all goes well, after one week another breast feeding can be dispensed with and the feeding from the cup substituted. It is well at this time to strengthen your formula to three-fourths milk and one-fourth water. If the child has as many as four or six teeth, it is my habit now to allow it to have a piece of toast or Zwieback with its feeding.

The third week of weaning, another nursing should be dispensed with, and in its place some well cooked cereal should be varied from day to day so that the child will become accustomed to the taste of different foods. Cream of wheat, oat meal gruel, rice, etc., are examples of what can be used.

Instead of the milk formula mentioned above, it is practicable to use undiluted buttermilk. If weaning on buttermilk is done at six to eight months of age, very little trouble is experienced in making the baby take the food. Occasionally when an attempt is made to make an infant from twelve to fifteen months old take buttermilk, you encounter great difficulty on account of the taste. However, if the indication is strong enough for the use of this food, this difficulty can usually be overcome by a period of starvation.

A baby who has been properly weaned should within five or six weeks be entirely on artificial food with the exception of perhaps one feeding from the breast at night. When this time comes, say at twelve months, when you desire to stop this night feeding, it is necessary for the mother to sleep in another room and turn the baby over to a nurse. If this is firmly done, the habit of night nursing will be broken within a few days, especially if the child is getting the proper amount of food during the day.

We now have our baby on some such schedule as this:

7 A. M.—Eight ounces of boiled milk, toast or Zwieback and some cereal.

9 A. M.—Juice of half an orange.

10:30 A. M.—Milk 8 ounces, with a cracker or Zwieback.

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2 P. M.—Boiled milk or buttermilk, a cereal. After 1 year, a baked potato with butter. After 14 months, an egg, or instead of cereal, chicken or beef broth with rice.

6 P. M.—Milk 8 ounces, milk toast, dry toast.

10 P. M.—If the baby has been in the habit of waking at 10 o'clock to nurse, it will be necessary to allow another milk feeding at this time.

The above would be a proper schedule for a child from twelve to fifteen months of age. At fourteen or fifteen months, meat in the form of scraped beef should be given once a day. Fresh cooked fruits, such as prunes, or baked apple, can now be given and are especially valuable if there is a tendency to constipation.

Green vegetables are indicated soon after the fifteenth month, but it must be understood that these vegetables must be thoroughly cooked. It has been my experience that the Southern cooks do not cook their green vegetables enough.

Desserts are allowed children after the eighteenth month. These desserts should be simple and should not contain an exclusive amount of sugar. Good examples are gelatine and baked custard.

I am convinced that it is much better to have young children eat apart from the family, inasmuch as the temptation to give it a little of everything on the table is usually very great.

The above outline is, of course, meant for entirely normal babies, and it is my firm conviction that if it is carried out with the same care usually given to artificial feeding of young infants, these babies will remain normal, and the dread second summer will lose most of its terrors and will not be any more dreaded than any other summer. We also will not see so much of the trouble which the laity is so fond of ascribing to teething.

Very rarely one finds a baby that is so constituted that it can not take cow's milk or any derivative thereof, even in the smallest amounts. In this connection, I am reminded of an exceptionally well nourished infant, eight months of age, whom it was thought necessary to wean on account of the mother. An attempt was made to give this baby a very weak cow's milk formula. The child absolutely refused the proffered formula, and after several days of effort a total of about two ounces of the mixture was forced. In thirty minutes, this baby had quite

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a violent attack of angioneurotic edema, with the eyes nearly closely, the hands and feet greatly swollen, and several large patches of giant urticaria on the body. This subsided within twenty-four hours, and several days later an effort was made to give it a formula of Mammala for a three months old baby. The same difficulty was experienced and when, at last, the child really swallowed a small amount of the mixture, the same anaphylactic phenomena appeared.

This baby cannot take cow's milk protein in any form, and it is being fed with cereal decoctions, broths, olive oil, etc. It is probable that its tolerance for cow's milk can be increased by starting with minute quantities of milk and gradually increasing it.

In conclusion, I want to particularly impress the importance of boiled sweet milk, beginning in the early spring and continuing throughout the summer.

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INTUSSUSCEPTION IN CHILDREN; WITH A REPORT OF THREE CASES OPERATED ON.

GASTON TORRENCE, M. D., Birmingham.

To quote Kimpton—Intussusception is essentially a disease of childhood. The diagnosis of intussusception is the mother's story, practically every time. In hardly any disease is this so often true. Usually the mother will say that the baby was perfectly well when suddenly he began screaming, turned pale and vomited, but got better very quickly. After that the baby was fussy, cried, and apparently had pain at intervals, with straining. Soon after first sharp pains the bowels may have moved. Usually within the first twelve hours the mother notices blood in the stools and sends for the doctor, and it is very important that he should make his diagnosis on his first visit.

Diagnosis: Colitis is about the only thing to be ruled out. In colitis there is usually a temperature and frequent movements mixed with fecal matter and bloody mucous.

Usually an abdominal tumor can be felt, but sometimes this can not be made out on account of straining. Kimpton says: "The tumor felt by rectum could well be omitted, for it would seem just to say that many early cases have slipped by because of not finding a mass on rectal examination. So often is this error made that certainly lives are lost. A rectal mass has little to do with the diagnosis of intussusception in the majority of cases, at the time the diagnosis should be made."

Snow reports three cases in which the diagnosis was confirmed by the use of X-ray and bismuth injection.

Halahan (Beunos Aires) reports a case of appendicitis simulating intussusception—a transverse mass could be felt, there were bloody mucous stools—no fever and great pain. An enormous appendix, 14 centimeters long, was found and removed.

Butzner reports a case of spastic ileus simulating intussusception. A perfectly healthy child eight months old was suddenly seized with sharp pains which came at intervals of about five minutes, a mass could be made out in the upper abdomen, subnormal temperature, bloody mucous stools. At operation,

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a dilated gut was found which ended at a joint as abruptly as if clamped off. Abdomen closed; patient recovered.

Etiology: Cubbins says that the long mesentery (2½ to 3½ in.) of terminal ileum and the fact that the cecum in these cases had a distinct mesentery has attracted his attention.

Ladd says intussusception occurs more frequently in healthy and well nourished babies than in those that are poorly developed and nourished. Forty-nine of the sixty-three cases he reported were under one year of age.

Depping reports two cases as a sequel to whooping cough.

McGlannon reports a case caused by round worms. Two intussusceptions were found, one in the terminal ileum and one in the jejunum, the bowel was opened and the worms removed. The child died 16 hours later.

In most of Starr's forty-six cases there was a history of intestinal disturbance, either marked constipation or diarrheoa.

Treatment: No other means of treatment except operation should be considered after the diagnosis is made, and every case should be operated on within the first twelve hours from onset.

The incision should be made through the right rectus muscle and should be closed with through and through silkworm gut to prevent the wound from opening up or the formation of a hernia, which frequently has happened from the child crying or straining.

Great care should be used in "milking out" the intussusception and very little traction should be used. Reduction is successful in from 80 to 90 per cent of cases.

Tilton advises giving salt solution by rectum or hypodermoclysis, and thinks it advisable for the mother to resume nursing the baby at an early date so as not to disturb it more than necessary. He thinks a dose of castor oil the best means of carrying off the accumulated fecal contents and blood.

Operation: Cubbins suggests suturing the head of the cecum to the pelvic peritoneum and the ileum to the ascending colon with four or five sutures, bringing them parallel to each other and thereby preventing an intussusception from reforming.

Tilton thinks that any operation to anchor the gut after reduction is useless and only prolongs the operation and tends to lessen the little patient's chances of recovery.

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Lord operated on a child of eight months that had been relieved by hydrostatic pressure and inversion, the third time within five and a half months, a large edamatous appendix was removed and the mesenteries of the cecum and ileum were reefed with silk sutures, complete recovery and no return.

Mr. Turner says, "Taking all the circumstances into consideration, I do not think it is necessary to take any special means to anticipate recurrence."

Mr. Gray says, "I do not believe there is any need to fix the cecum as a preventive measure. Also, in these cases no more should be done than is absolutely necessary."

Resection: Mr. Gerald S. Hughes (London Lancet, Sept. 28, 1912, page 878) reports the case of a child six months old from the York County Hospital which was operated on 48 hours or longer after onset (ilio-cecal variety) extending down into descending colon, 15 inches of the cut were resected with complete recovery.

Charles N. Dowd reports an intussusception in an infant five days old which was operated on 37 hours from the onset of the trouble, more than one-third of the colon from above the middle of the transverse colon down to the upper portion of the sigmoid was excised with recovery.

C. Leonard Isaac (Swansea, England, London Lancet, February 1, 1913, page 318), reports a child two years old—with irreducsible ilio-cecal intussusception in which he resected the cecum and did an anastomosis between the ileum and ascending colon with recovery.

Gallie reports 45 cases from The Toronto Children's Hospital in which 17 resections were done; all died.

Mr. Gauntlett reports a child ten months of age in which he did a resection 24 hours after onset with recovery.

Eisendrath reports the case of a three-months-old child seen on third day of intussusception—complete resection with anastomosis of ileum to sigmoid with recovery—on seventh day during crying spell there was a complete evisceration. Intestines put back and wound resutured. He says recovery after resection is rare and that the mortality is close to 100 per cent.

Elliott reports case of intussusception in boy 7 years in small gut due to a Meckel's diverticulum. Resection was done with complete recovery. No blood was shown in stools which is the rule rather than the exception above the ilio-cecal valve.

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Fraser reports two cases of intussusception above ilio-cecal valve, (½ and 10 years) resection was done in both cases with recovery. No blood in stools of either child.

Recurrence: Mr. Edw. M. Mahon recently reported in Guy's Hospital Gazette (London Lancet, December 20, 1913, page 1785) a boy three years old who was admitted to Guy's Hospital November, 1910, and was operated by Mr. C. H. Fagge for ilio-cecal intussusception. He was perfectly well until July 15, 1913, when he had a severe pain, blood, etc., and was removed to the hospital and was operated on 11½ hours after onset, the condition was found to be an exact duplicate of his previous trouble, and he again made a complete recovery.

Mr. Chas. P. B. Clubbe in his "Diagnosis and Treatment of Intussusception," says that it is very rare that any trouble follows complete reduction after operation, and did not occur in any of his 144 cases, extending over a period of 13 years. He has operated on two children for recurrence coming on two and six months after operation.

Adams and Cassidy in "Acute Abdominal Diseases" record only one recurrence in 100 cases, and this occurred five weeks after operation.

Mr. Thos. H. Kellock (London Lancet, July 20, 1912, page 154) reports the case of a child that apparently had had five attacks and was relieved three times by enemas and twice by operation.

Mr. G. Grey Turner (Newcastle-Upon-Tyne) reports the case of a child 8 months of age operated on June, 1907, again in October same year, and in May, 1908, for the same type of intussusception. At the second operation he sutured the ileum to the cecum for four inches, the sutures were found at the third operation to have held "firmly," "though there were long flimsy adhesions between the two." The child was in perfect health in 1913.

Mr. Turner reports another case operated on in 1910 at seven months of age, the following year he had a recurrence of the condition and the physician found a mass protruding from the rectum. When he was admitted to the hospital this could be felt up in the rectum, but when the abdomen was opened the intussusception had been relieved.

Mr. Tywell Gray reports a case operated on three times for intussusception with recovery. At the second operation a mobile cecum was fixed.

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F. O. Allen reports a case that was operated on and did well for four days, and then recurred and was operated on again.

Mortality: C. L. Starr's (Canad. J. M. & S., Vol. XL, 133—1916), paper was based on 46 cases with 31 deaths and 15 recoveries admitted from three hours to eight days from onset. Average in fatal cases 74 hours, and 32 hours in cases that recovered.

In Gallie's 45 cases, of which 16 recovered, 12 were operated on in 24 hours from onset.

Parmenter reports 53 cases operated upon by "a considerable number of Buffalo surgeons," 23 were operated on in from 3 to 24 hours with only one death. The remaining 30 cases were operated on from two to four days, with 9 recoveries and 21 deaths.

Abott reported at a meeting of The Western Surgical Association (1916) 12 cases with four deaths and eight recoveries.

McMurtry reports four cases. Only one case was operated, two cases recovered.

Results: Dowd reports (1915) two cases, nine months and three years old seen 20 and 28 hours after onset with recovery. He thinks that by the use of bismuth and X-ray and the usual symptoms that no case should escape an early diagnosis.

Kimpton says that prior to 1908 the mortality was 80 per cent in The Infants and Children's Hospital. He quotes Clubbe's Statistics. In the first 50 of 124 cases the mortality was 50 per cent. In the second 50, 25 per cent, and in the next 24, 12½ per cent.

Ladd says that prior to 1908 there were 10 cases operated on at the Massachusetts General Hospital with one recovery, —and eight cases at The Infants' Hospital with one recovery. Since 1908 there have been 63 cases operated with 32 recoveries and 31 deaths (mortality 49 per cent). Of the last 19 cases operated on only 4 have died (mortality 21 per cent). Four of these 63 cases were operated in 12 hours with no deaths; 18 cases at 24 hours with three deaths, a mortality of 16.66 per cent; 13 cases at the end of 36 hours with 54 per cent mortality, and 17 cases at 60 hours or more, a mortality of 88 per cent.

Peterson reports 19 personal cases (ages six days to thirteen months) with eight deaths. All were seen within twenty-four hours.

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Vance reports seven cases with three early diagnoses that recovered and four late diagnoses and all died.

Abbott reports twelve cases with eight recoveries.

Snow reports four cases (early diagnoses) diagnosed 2-13-52 and 80 hours with two deaths.

F. W. Wilkerson reports a successful case of a child one year old operated on seven hours after onset.

Case Reports: No. 1.—Breast-fed child 7 months of age. Was in perfect health and was suddenly taken with sharp, cramp-like pains, became quieter, but was uncomfortable and irritable. Bloody stools, and mass could be felt on left side of upper abdomen. At operation 12 hours after onset an ilio-cecal intussusception involving the transverse colon was found and was easily reduced. There was considerable thickening of the head of the cecum. No fixation. Child died 36 hours later.

No. 2.—(Operation by Dr. Gewin.) Breast-fed male child 5 months old. Was suddenly seized with pain. Was well and strong prior to this. Was sent to the infirmary for observation. Blood in stools. Mass in upper abdomen. Operation 8 hours after onset. Ilio-cecal type, acutely inflamed appendix. Reduction easily accomplished; appendix removed and abdomen drained. The child made an uneventful recovery.

No. 3.—A perfectly normal breast-fed little girl of 9 months was suddenly seized with pain. An inexperienced colored nurse had taken the child out in the woods a few hours before and told the mother that the baby had swallowed some leaves from some small plant. She grew more quiet and was brought into the city the following morning, about 18 hours after onset, and was operated on within 2 hours. She had bloody mucous stools, and a mass could be felt in the epigastrium. Nothing felt by rectum. Ilio-cecal variety passing beyond the hepatic flexure of the colon. A small drain passed down below the cecum. Complete recovery. Soda proctocylsis was given in all these cases.

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CRIPPLED KIDNEYS.

J. P. Stewart, M. D., Attalla.

The kidneys are very important organs and their function is of vital necessity to life and continued good health.

So important are they, that the least impairment of their function disturbs at once the very life blood of the body, and shows its effect, sometimes immediately, sometimes remotely, in some clinical picture, that is usually recognizable by those who are familiar with the signs and symptoms of these affections.

In their normal condition the function of the kidneys is to purify the blood, by a system of drainage or filtration peculiarly arranged, so as to withdraw from the circulation, certain deleterious substances that have accumulated from the general metabolism of the body, substances that if left in the blood would soon poison the body and destroy life.

These are well-known facts, and are only mentioned here to impress upon you, at the beginning of this paper, the very great importance of the kidneys.

Post mortem examinations have revealed the fact that few kidneys go through the entire length of an average life without some impairment. This is a grave and serious statement, yet it is true. So many diseases, even of childhood, leave their impression on the kidneys, and often cripple them permanently. Take, for instance, scarlet fever, measles, roseola, diphtheria, chicken-pox, meningitis, erysipelas, intestinal-catarrh, cholera infantum, malaria, extensive burns, etc.

The kidneys of young children, like their other organs, are very impressionable, and in all those diseases which we know there is the slightest danger of impairment we should use the greatest care in their protection. A slight injury in childhood could, and often does, lead to grave trouble in after life.

Of course there are also immediate and often fatal conditions as sequelae of some of these diseases of childhood, more especially of measles, scarlet fever, and extensive burns.

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In older persons, whose kidneys have escaped the ills and misfortunes of childhood, come a number of causes and diseases that mark and cripple the kidneys. They are: changes in the blood pressure, from heart troubles, causing a lowering or raising of the circulation; from diseases of the arteries, especially, arterio-sclerosis, alcoholism; injuries, especially injuries about the head; exposure, especially exposure to cold; rheumatism; chronic skin troubles; typhoid fever; malaria; septic fever; syphilis; tuberculosis; gout; pregnancy, especially the toxemia of pregnancy; and sometimes pneumonia, especially if the kidneys have been affected in childhood.

There are also some potent drugs that sometimes cause impairment of the kidneys and often lead to permanent injury. These we should keep in mind so as to avoid large doses or continued use of them. They are cantharides, copaiba, cubebs, squills, chlorate of potash, petroleum, turpentine, pyrogalic acid, chrysarobin, carbolic acid.

In diseases of the kidneys, such as Brights in its various forms, pyelitis, hydronephrosis, nephrolithiasis, etc., with our present methods of chemical urinalysis, the centifuge, the microscope, together with the history of the case, and the clinical picture, we are enabled to diagnose with a great deal of accuracy.

But there are certain conditions, such as acidosis and uremic manifestations due to a crippled condition of the kidneys with impairment of their function, that seem to baffle our most careful and painstaking methods. We have the symptoms and clinical picture of uremic poison, convulsions and coma, etc., yet an examination of the urine fails to account for the trouble. Still we feel sure after careful elimination of other causes that we must have a case of uremia.

I am persuaded to the belief, that at sometime, from some cause, that peculiar and complex system of drainage in the kidneys has been disturbed functionally or crippled permanently, so as to allow certain toxic elements of the urine to escape, or remain in the blood, causing a train of symptoms that heretofore has been ascribed to the liver, such as vertigo, headaches, blind-spells, "that tired feeling," neuralgia, rheumatisms, swelling of the hands and feet of a morning, puffiness under the eyes, heavy feet and legs—"hook wormy." My opinion is that fifty per cent of these cases are of the kidneys.

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There are other cases where the urine fails to register the kidneys at fault, and for which I fully believe they are responsible. They are those peculiar nervous conditions known as hypochondria, melancholia and monomania. Not that I believe that all neurotic or hysterical conditions should be attributed to failure of perfect function of the kidneys, but I do believe, and after careful study and treatment of some of these cases, that there is a toxemia of the system that has its origin in this way.

Of course we all know that often we have nervous conditions, arising from a thyroiditis, or an affected ovary, or some uterine trouble. Also in the male some disturbance of the sexual organs. But when by elimination we find that our symptoms can not be attributed to these conditions, then where are we going to place them?

Post mortem examinations in the cases fail to find any lesions elsewhere except in the kidneys and even there the pathological conditions are very slight. But be it ever so slight, knowing the very great importance of their function could it not be possible that the slightest impairment of their highly necessary function might cause the train of symptoms found in hypochondria for instance.

I know we are often lead to believe that they are simply psychological—imaginary as it were. Granted, but could not this toxemia produce the psychopathy.

I have no doubt that many of our so-called "brain storms" are caused by the functional derangement of a crippled kidney, allowing certain toxines to poison the blood and through it affecting the brain.

Kidneys crippled in childhood, by some eruptive fever, or otherwise, not noticeable at the time, followed later in life by some great exposure or prostrating disease, that otherwise, possibly, would not affect them, had their resistance been normal, lose their functional ability to eliminate properly and become a menace to health and even sanity.

There are also certain cases of acidosis due to a crippled condition of the kidneys. Alkalinity means life, acidity, death. We must keep the body chemically embalanced by proper elimination through the functions of the liver, kidneys, skin and bowels, so that the blood stream and cells of the tissues may maintain their normal alkalinity, for on this depends the very

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life of the body. In acidosis this alkalinity is neutralized by the acids of metabolism, which should in part be eliminated by the kidneys, thus poisoning the system and endangering life.

Too many of these cases heretofore have been attributed to a torpid liver, to indigestion, to obstipation, etc., when the kidneys have been largely at fault.

Feeling that the importance of the functional work of the kidneys has been overlooked in many of the case herein enumerated and believing that greater attention should be given them, and that their care and treatment should ever be borne in mind, I offer as an apology, if one is necessary, for this paper.

The treatment of these cases is symptomatic and varied.

Of course you must consider the cause, the history and the idiosyncrasies in each case. Making careful study of every apparently insignificant detail, overlooking nothing, if you wish to effect a cure. And be sure to examine the urine every week and every day in the week, minutely and painstakingly, for there nine times out of ten you will get some light on the nature of the trouble.

DISCUSSION.

Dr. T. A. Casey, Birmingham: I do not want to allow a paper like this to pass and not talk about it a little bit. Dr. Stewart has presented a very important subject and a good paper. I was impressed with this point, that the idea of any one who wanted to maintain health has a great deal to do with the action of the kidneys. You take rich food, a whole lot of it, and it might be said to be a harmless proposition, but it will influence the kidneys in a very unfavorable way. I have had some personal experience in practice, and have had to advise some old men that might have gone to doctors for prostatic trouble, and after regulating their diet the trouble would pass off. Of course, no examination was made for enlarged prostate, but merely the clinical picture. I merely want to emphasize the point that the diet as well as what you drink has a whole lot to do with it.

Then take the pregnant woman, and we have a serious impairment, a toxemia and a great many symptoms. I have seen some of those patients that were in a very deplorable condition,

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perhaps permanently impaired mentally. We name these things a great many times when we do not know exactly what they are. Dr. Stewart impressed me as having the thing in hand. It is a good thing when a man reads a paper to see that he has thought about the subject and has it well in hand.

Dr. H. S. Ward, Birmingham: Dr. Stewart's paper was certainly a very timely and entertaining paper. But I do feel that Dr. Stewart is a little enthusiastic on the subject of attributing too much to the kidneys. Just like at the present time we are very liable to attribute too much to focal infections. Another thing, since the Wassermann and salvarsan have come so much into prominence we are attributing a great deal to syphilis, though I do not think we are attributing too much, inasmuch as it is pretty definitely settled that one in five men is infected with syphilis. While the kidney plays an important part in the body, Fisher's recent work shows that we can get along with a very small amount of kidney. He has done a lot of work on rabbits, in which it has been shown that we can get along in perfect health where we have only one-eighth of our kidney function, showing us what an extraordinary thing nature is. For instance, at the post mortem table we find men who have lived to old age with these little contracted kidneys, little things not over an inch and a half long. You look at them and wonder how a man could have lived, and yet he has lived a long and useful life, and you know that those kidneys have been many, many years in coming to that size. I remember seeing a post mortem on a negro man not long ago who had been leading a pretty useful, active life, and at post mortem he had only one kidney, and that a very small one, showing that we can live with a small amount of active kidney substance. I do not mean, in the least, to minimize the importance of the kidney, but I do think we must not attribute melancholia, hypochondriasis, neurasthenia and all the things we do not know what they are to the kidney function, especially when the individual is putting out a normal amount of urine and nothing is found on examination.

So I feel that while the paper is an important one, and I do not want in any way to minimize the value of everybody looking to the kidney and its function. Yet, at the same time, we are liable to get just a little bit lazy. Somebody comes along

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with a hypochondriasis and we will say the kidney is not working well, just like the old notion that the liver was not working well. The doctor hides behind this instead of finding out just what the trouble is. I do not believe Dr. Stewart means us to think the kidney is doing all the work. But that is the inference that could be drawn if we are inclined to be too enthusiastic on the kidney function.

Dr. C. W. Shropshire, Birmingham: Kidney functional tests have done more, I think, in the last few years to bring to light the true and the false condition of the kidney. Through the monumental work of Drs. Geraghty and Rountree, of Johns Hopkins, on phenolsulphenophthalein, Dr. Marshall on urea estimation, and the use of the cystoscope and the X-ray, we are in a position to make a definite, clear-cut diagnosis. It is no more a question of going in the dark and finding out on the post mortem table whether we have a unilateral or a bilateral tubercular infection of the kidney. With modern instruments, as the cystoscope, urethral catheter, X-ray functional tests and the blood estimation and your urinalysis, which is very important, you can tell which kidney is involved and the extent of it.

Recently I had the good fortune of spending several days in Cincinnati with Dr. Fisher, who is physiological chemist at the University Hospital there, and he showed me some of these rabbits and dogs on which he had lectured to us physicians in Birmingham. First, he took a wedge out of one kidney and traced the kidney function. Then he removed the other kidney. And as Dr. Ward just remarked he kept on until he had only one-sixth or one-eighth of a kidney, and these animals have been living for four or five years, and they have bred and inbred, raising different breeds of rabbits and dogs, and there has been no deterioration in the size or function of the animals produced. He showed me the various functional tests, and he is doing a great deal of work on kidney function.

Dr. Stewart's paper is very timely, but the trouble and the trend of opinion today is that we are too apt to jump to conclusions and not to work quietly and conservatively and make the diagnosis of what it is and what caused it.

Dr. William C. Maples, Scottsboro: I am glad the doctor brought out something about Dr. Fisher. I heard him deliver that lecture. Fisher is a great enthusiast. If I remember cor-

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rectly, he considers that there is only one kind of inflammation of the kidney, and that is what we used to call the interstitial. The other is really not an inflammation, but due to diminished alkalinity of the blood. His theory is that this edema that we call Bright's disease is due to conditions of the blood. I do not think his theories have been thoroughly accepted, but according to Fisher we have very few kidney diseases that start in the kidney, but they start in the blood, due to diminished alkalinity of the blood. Probably these various disturbances of metabolism may have something to do with it. He has demonstrated that we do not need much kidney to get along with. It is a universal law that we have a superabundance of tissue, a great deal more than we need. If that were not so we would be very liable to die from slight disturbances. We have got a big reserve.

Dr. Walter F. Scott, Birmingham: I am awfully sorry Dr. Geraghty is not with us today, because I believe that Dr. Geraghty knows more about the kidney function than anybody in this country. I fortunately was with Dr. Geraghty at the time that he and Rountree were working up their phenolsuphonephthalein test. That sounds like a big name, but it is such a simple thing to do that I feel that every member of this Association ought to adopt it. We can absolutely tell the condition of the kidneys by that test. I won't say absolutely, but almost absolutely. It is very true, as Dr. Shropshire has said, in surgical conditions of the kidney it is very important to find out which kidney is the good one and which is the bad one with the aid of the cystoscope and your functional tests, but in the ordinary medical cases it is not necessary to use the cystoscope. It has been proven by experiments by Geraghty and Rountree that six milligrams of the phthalein injected subcutaneously, that the kidneys will throw out within an hour, allowing ten minutes for the time of appearance, say an hour and ten minutes after the time of your injection—will throw out anywhere from twenty to forty per cent., between thirty and forty being normal. With an ordinary case, say, of measles or of scarlet fever if you are in doubt about the kidneys you can inject your six milligrams, which is put up in ampules by Hynson & Westcott, and in an hour and ten minutes have your patient void. It is merely a color test. You have your standard solution, which is six milligrams to one thousand c. c. of water. You collect

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the urine in an hour and ten minutes, dilute to one thousand c. c., adding sodium hydroxide to make it alkaline, which intensifies the color, and then compare the two by a colorimeter, which is a very simple thing. You have the standard solution in one and your colored urine in the other and you just compare the solutions according to a scale, and you can actually find out the condition of your kidneys.

As Dr. Stewart has very truly said, the condition of the kidneys is not truly shown by the urine always. At the time when I was with Geraghty I remember a case which illustrates that very forcibly. There was quite a prominent man at Hopkins whom Thayer and Barker were treating at that time, and Geraghty asked permission to give this man a functional kidney test. To Geraghty's surprise this man only threw out twelve or fourteen per cent. Geraghty went to Thayer and told him his patient was going to die inside of two weeks if something was not done. Thayer said it was impossible, that there was absolutely nothing wrong with the man's kidneys, no albumin, no casts, or anything else. Geraghty said he didn't care, that he believed the man was going to die. Thayer laughed at him, but just the same the man died in ten days. So you cannot always tell by the urinalysis. I think the phthalein test is the simplest and easiest test that can be used, and it ought to be used not only in surgical but in medical conditions as well.

Dr. Paul P. Salter, Montgomery: The first question that arises in my mind when I think of the subject of the crippled kidney is, What do we consider a crippled kidney? One doctor has said that parenchymatous nephritis is a thing of the past and we do not have it, that an interstitial nephritis is the only nephritis that we recognize. I would like to ask him if this is so, what irritations or what diseases give rise to interstitial nephritis. If interstitial nephritis is a primary affection what infections lead to it? Doesn't a parenchymatous nephritis always precede an interstitial nephritis. In cases examined and found to have swelling and other evidences of parenchymatous nephritis? I have never examined a slide from any patient whatsoever, young or old, which did not show some nephritis, usually parenchymatous, and at the same time, with it, a little interstitial nephritis. But pathologically, parenchymatous degeneration always precedes the interstitial changes. The point

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I wish to bring out is this, that we may have a parenchymatous or an interstitial nephritis, and one or the other may predominate at the time of examination, but the parenchymatous stage preceded. The parenchymatous and interstitial may be either acute or chronic in form. Now let us consider the first question, what is a crippled kidney? Not all pathological kidneys are clinically crippled, e. g., a man having both limbs removed, say below the knee, and has artificial limbs, his function may so approximate perfection that you can hardly tell he was shy of his lower extremities.

He was crippled, pathologically, but so far as securing and prosecuting the functions he was not crippled, clinically. Some of the doctors said that it had been demonstrated that one-eighth of a kidney was sufficient to carry on life. Then if we have that one-eighth, it makes no difference what pathological condition we have, if that one-eighth is capable of sustaining life, so far as we are concerned that is not a clinically crippled kidney, while from a pathological standpoint the kidney is greatly impaired.

I want to disagree with Dr. Scott on the functional test. It is the best thing which we have today, but it is not one hundred per cent perfect; it can mislead as well as the urine examination. It happened to be my luck while in the hospital to see a case with a blood pressure of 220. On making a functional test the excretion for two hours and ten minutes was fifteen per cent, and that case is still living. However, I will agree that the average case does not meet with such a happy end. Why this one did not die I will not attempt to explain. So far as we know today, the functional test is the best aid to a correct diagnosis at our disposal, and I hope that every physician, especially the practicing physicians, will take up this simple test and not rely absolutely on whether or not heat and acid will show albumin, or whether the microscope will show casts, because these will not always show the condition of the kidneys. On the other hand we may have a crippled kidney and the functional tests will not show it. We are striving and working in the right direction, and each day we are climbing to higher heights, and I hope some day we will have an absolute test. But I am not yet as firmly convinced as are Drs. Shropshire and Scott, that the phenolsulphophthalein test is 100 per cent correct. Nor do I think that the time is yet ripe for us to say that by this test we should know absolutely the condition of the

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kidney. So far as I am aware the originator of the test did not claim that the findings would give you the differential diagnosis of the pathological condition in the kidney.

This test, coupled with the urine findings, a careful history, examination, the X-ray, cystoscope and sphygmomanometer will lead the average physician to a very clear insight into the kidney condition.

Dr. Stewart: We know so little about the kidneys that this subject is a hard one to discuss. What I mean is this, we know that even the functional test has fallen down on the true condition of the kidney. We know that the chemical test, the microscopical tests, that all of the other tests that have been spoken of here have failed to reveal the fact that the kidney is crippled and that it does not do its functional work. What I mean by that is not the quantity of urine, and not quality as far as the examination goes, but we have symptoms in our subject that reveal the fact that there is a toxemia producing the symptoms, that we cannot attribute to any other cause except some disturbed function of that kidney.

Dr. Ward says we can get along on a small amount of kidney. That may be true; it may be possible and is possible, and no doubt he is right, and I believe he is from what I have read and thought and seen; but, at the same time, we may have two good-sized kidneys and those kidneys not doing their functional work, and we may have one little kidney and it is doing all the work and doing it perfectly. A man may be perfectly healthy apparently, and the warm blood of life flowing through his veins, with a very small kidney, and only one at that. But there may be another man who has two very large kidneys, and those kidneys failing. Although they do the work, as far as quantity of urine is concerned, and yet that man have a train of symptoms that puzzle us.

Dr. Shropshire says that we can make a perfect diagnosis by X-ray, cystoscopy, functional tests and one thing and another. I would love to see any man who can make a perfect diagnosis of a kidney. I would love to go to school to him for about ten days or two weeks if I had the time to do it.

In answer to what Dr. Ward said, I want to say that he is correct. I do not attribute everything to crippled kidneys, but I do believe that the crippled condition of the kidneys is largely responsible for a great many of these cases.

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HEADACHE.

FRANK W. YOUNG, M. D., Hartford.

Because of the short duration of my experience in the practice of my chosen profession, I hesitate to enter into a discussion before so august a body of men. I have selected for my theme this evening, not a disease, but a symptom—headache—probably the commonest of all symptoms. It is a discomfort that has tortured mankind almost from the beginning of the human race. This condition was known centuries before the cross, for in II Kings, 4-19, we read that a young man cries, "My head, my head," etc. It is not a new condition, but it is one whose origin is oftimes difficult to determine, and from which a permanent relief is very hard to obtain. "The head is a most important localizing center for pain, for it seems that here all the aches and ills of the human body converge to bring torment and suffering on the unfortunate individual." Strictly speaking headache includes only those pains felt in the cranium, and does not include face pains, therefore the scope of this paper will consider only those pains affecting the cranium.

One of the first things to consider in a discussion of headache is the seat of the sensations. Formerly it was thought that the pain came from the membranes of the brain only, but now it is generally conceded that it may be in the brain substance or any of its sheaths; as the skin, the cranial muscles, the skull with the periosteum, the meninges, and the brain itself. The knowledge of this fact has helped to explain many seemingly strange phenomena connected with headache. It is needless at this time to enter into a discussion as to how the location of the seat of pain was found to be as described above.

It is extremely difficult to get a satisfactory classification of the various types of headaches, for the different forms overlap each other so much. The majority of all headaches may be embraced under the two classes: (1) headache of intracranial origin, and (2) headache of extracranial origin. This classification is not satisfactory for relatively so few headaches has its

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origin within the cranium. I have attempted to classify it as given below, the classification being based on anatomy, etiology, pathology, and to a slight degree on some special symptomatology. The types that I am about to discuss are taken from a combined grouping by several authorities, and embraces all the more important forms of the malady.

(1) Migrainous.—I am heading the list with this type for it is the most frequent chronic headache seen by the general practitioner. It occurs in early life; more frequent in women; has some indefinite relation to the menstrual cycle; the pupils are contracted during the attack; usually history of heredity; vomiting usually follows with more or less relief; is unilateral in about two-thirds of the cases; and the pain is intermittent.

(2) Indurative or Rheumatic.—This is almost as frequent as the migrainous type. These two types forming about four-fifths of the chronic headaches seen in general practice. It occurs later in life; the pain is practically continuous; usually begins in the occipital region and spreads, so to speak, over the entire head. In this type we often have small nodules forming in the muscles of the head and neck, and these nodules are extremely sensitive—even slight irritation or trauma bringing on a severe attack.

(3) Toxemic.—Which may be subdivided into two types as, (a) those caused from exogenous poisons, as alcohol, lead, arsenic, nitroglycerine, ether, amyl nitrate, etc.; (b) those caused from endogenous poisons, as typhoid fever, influenza, small-pox, chronic Bright's disease, portal cirrhosis, diabetes, hyperthyroidism, chronic gastritis, starvation, cerebral syphilis, fatigue, bad air, constipation especially with putrifaction, and other diseases due to alimentary disturbances. This is a very common type of headache but is usually very amenable to treatment.

(4) Infectious Diseases—(Onset)—As malaria, scarlitina, measles, yellow fever, dengue, tonsillitis, etc. This group is of minor importance from a headache standpoint.

(5) Anaemia.—Either primary or secondary—is often accompanied by a low grade headache.

(6) Syphilis.—This form might easily be included in one of the above classes, but because of its importance and frequency I have put it in a class to itself. Always be suspicious of syphilis in a periodic nocturnal type of headache. I once heard a

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good man say, "A periodic diurnal headache, in our Southern States, is usually caused from malaria; and a periodic nocturnal headache is usually caused from syphilis." My experience has been the same. I believe the formerly so-called "Sun Pain" is due to malaria.

(7) Brain Tumors.—This type presents the very characteristic general and focal symptoms.

(8) Diseases of the eye, ear, nose, and throat.—As eye strain, otitis media, tonsillitis, hypertrophied turbinate bodies, etc. This class belongs more to the specialists on these branches.

(9) Neurotic type.—As seen in hysteria, neurasthenia, etc.

(10) Nephritis.—In the chronic types of nephritis the accompanying arteriosclorosis is usually the cause of the pain, if we except the headache of uraemia, and I question if "Arteriosclorosis" would not be a better term for this class.

(11) Insolation.—With or without actual sun stroke. It is often a question to be determined as to whether these cases are real or should be called hysteria or neurasthenia. However, there are enough real cases of headache caused from insolation to entitle it to a class here.

(12) Traumatic.—Many injuries to the skull, and especially to the accessory sinuses, are responsible for headache, and oftimes of the very severest type.

(13) Inflammations within the skull.—As meningitis, cerebral arteritis, etc.

(14) Reflex Causes.—As seen in various menstrual disturbances, lacerated cervix, malpositions of the uterus, diseases of the bladder, etc.

(15) Habit Headache.—This type perhaps is but a branch of the neurotic type, but for apparent reasons there are many classes that we cannot put in that class.

(16) Lymphatic.—This is a very important and frequent type of "occasional headache." It is made worse on exercise, attacks last from one to six hours, the pain is dull and heavy unless it occurs in the frontal or the temporal regions then it is throbbing, it may occur in any part of the head, and is associated with a deficient coagulability of the blood.

(17) Idiophathic.—We always dislike to have an "Idiopathic" type of a disease, for it is a more or less an acknowledgment of our "shortcoming," but there are some cases of head-

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ache whose origin, pathology, etc., cannot be definitely ascertained—hence this class.

This classification includes all the more important headaches, and it will be readily seen, as stated above, that no class is clearly a type of itself, but they intermingle one with the other. So much for the classification of headache.

There has been much written, and many diagrams drawn, in an attempt to show the importance of the so-called "Head Zones" and the postures the sufferers assume in the various types of headache. I am forced to confess that my experience has been rather disappointing in following these diagrams, etc., towards a diagnosis. Naturally we usually look first for trouble at the point designated by the patient, and in only a few cases will this point of pain look toward the seat of the trouble if the trouble has referred the pain.

Just a few words concerning the diagnosis of headache, or perhaps I had better say concerning the importance of careful diagnosis of headache. This is such a common complaint that we have long since ceased to treat it with its due importance. I wish to register here a most earnest plea for a more systematic study of our cases of headache, especially on the part of the general practitioner. Few of us cannot recall a case that we would rather forget, because of the fact that we treated it too lightly. Aside from the usual examination of the case the following special tests should be made in all puzzling cases of headache:

"(1) Thorough examination of the eyes (including retinoscopy), the pupils, and testing of intraocular pressure or tension (Glaucoma?).

(2) Temperature records (Infections?).

(3) Blood pressure measurements (nephritis? tumor?).

(4) Urinalysis (albumin? sugar? acetone? etc.).

(5) Palpation of the insertion of the nape muscles at the occiput.

(6) Examination of the nose and its accessory sinuses.

And in the history under special points we should ascertain if the headache is of paroxysmal occurrence and fixed duration, disturbances of vision, great prostration (migraine?), history of psychoneurosis, and is the pain periodic."

In conclusion I wish to devote just a few words under the head of treatment. The old principle, "Find the underlying

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cause and treat that," applies here better than in almost any ailment we have to deal with. Diagnose your case; then you will be in a position to offer a scientific and rational relief, or if there is no relief then you can so inform your patient and thus save considerable disappointment on both parties concerned. The best drugs to apply for temporary relief, while we are striving to remove the cause, will also vary with the diagnosis, or perhaps I had better say with the cause of the trouble. A combination of aceto-salicylic acid with codein will relieve in more cases than any other one remedy—morphine excepted, of course. The bromides, and in some cases the coal tar products are good. Right here permit me to pause long enough to condemn the use of opiates in any chronic headache because of its habit-forming tendency, and other deleterious effects. Codein is the least harmful of all the opiates in this particular trouble. There is no specific for the temporary relief and each case must be a case unto itself.

There is perhaps no complaint for which more patent or proprietary remedies are offered to the public than for headache. This class of remedies cannot be too strongly condemned. They are dangerous. They are oftimes habit-forming. They oftimes mask, so to speak, conditions that otherwise might have been treated successfully if taken in time. Let the profession stand united as one in condemning this self-administered form of treatment.

The well-known Chas. L. Dana, M. D., of New York, has recently presented a paper (A. M. A. Journal for April 7, 1917, page 1017) on what he terms "Puncture Headache"—a headache resulting from lumbar puncture. This type will no doubt eventually take its place as another class of headache.

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DISCUSSION.

Dr. H. S. Ward, Birmingham: This is indeed an extremely important subject. I do not know that there is any specialty

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that does not have to deal with headaches. Any man who does anything apparently in the domain of medicine or surgery, his patients are going to complain of headache. I cannot add anything to the different types and classification given, because it seems to me the classification is perfect. The essayist has covered the ground thoroughly.

Speaking of this lumbar puncture headache, I might remark that I have just had the same experience that he gave of that kind. I did a lumbar puncture on a young girl of sixteen who has had an extremely obscure condition, to have the spinal fluid examined. She remained in bed only a few hours, and they were also making some X-ray tests on her stomach at the same time. She was only going to spend a couple of days in the hospital purely for diagnostic purposes. So she got up and went home on a street car. I told her to go to bed immediately on getting home. About the second or third day her headache came on, and it was extremely violent every time she would try to leave the bed, and she also had considerable vomiting. I feel perfectly sure that that was the delayed lumbar puncture headache that has recently been reported in the Journal. It was the first case I had seen, and if it had not been that I had just seen that article a few days before, I do not think I would have recognized it as this type of headache, because headache had not been one of her characteristic symptoms that she was brought to make a diagnosis of. By keeping her in bed the headache all passed away, and she is in good condition. But I feel perfectly sure that this headache was entirely due to that. Most of the cases of lumbar puncture headache which we see come on within a few hours and the headache soon passes away. I believe that the practice of doing lumbar puncture in your office and allowing the patient to get up and go home is a rather hazardous practice. But even this case was in a horizontal position for about six hours after I did the lumber puncture.

In most headaches, if you will put in sufficient time on them, you can make out the cause. I think one of the types of headache that the doctor mentioned has been called malarial headaches or sun pains. Our nose and throat specialists have demonstrated that a great many of these headaches, instead of being due to malaria, are due to a frontal sinus condition. In the old sun pain the patients got up with it and when the sun reached

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a certain point in the heavens it passed away. That, I believe nose and throat people tell us, is due to pus in the frontal sinus. When that is operated on the pain is relieved. Of course, we used to think that large doses of quinine relieved these cases, but I do not believe quinine has any effect.

Another type of headache that is very common is the headache that comes on with chronic nephritis. I think we are apt to overlook a number of these cases in people who have high blood pressure and come down with severe and violent headaches. Frequently there will be no definite urinary findings that would point to the kidneys. As a rule, however, if you observe them long enough you will find that there will be traces of albumin, the urine is of a low specific gravity and pale in color.

The headaches of intracranial tumors are perhaps one of the most alarming and the most difficult to do anything for. The headache is of the most intense type, a headache that extends through the head on a straight axis from the occiput to the front, with vomiting in the early morning, should be further examined for an intracranial growth or for something that has produced an internal hydrocephalus, usually due to stopping up of the drainage between the sinuses and the outlet, so that you get a headache due to a damming up of the cerebrospinal fluid.

Another type of headache that is extremely difficult to make out is a headache that comes on and is extremely violent and you have the eyes examined and find no trouble, and the ears and urine and blood pressure and everything are apparently normal, and you send her to some good man and he looks up into the nose and finds a pressure upon one or the other of the turbinates. That is a very common cause of a very troublesome type of headache, and apparently the only thing that is of any value to them is to have this turbinate bone removed so as to relieve that pressure.

Of course, in the headache of hysteria, the most common type is the clavis or the boring of a nail in the top of the head; we all see more or less of that. But we are all getting more and more away from calling headaches nervous headaches. The more we look and the more thorough examinations we make and have made by the specialists, the more we make out the cause and cease to think of its being a nervous headache. Most of you might just as well make up your minds that when a

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patient comes to see the doctor, especially if you are not doing contract work, there is something the matter, and it is an insult to them to tell them, "Oh, there is nothing the matter with you; go and do not think about yourself and you will be all right." There is something the matter, and if you will keep looking you may find it. If you do not find it why somebody else most likely will. So I say, I believe in practically all headaches, if you will look long enough and examine long enough, you will be able to make out the cause. Of course, after you make out the case you are not always able to remove the cause, you will have to tell the patient you cannot remove the cause and they will have to submit to it.

Of course, there are headaches in people who are not quite able to endure the ordinary strain or stress of life. You recognize those as strain or stress headaches, and the thing to do is to try to relieve the strain and stress.

Another type of headache is the migraine, which is a very interesting type of headache. That is another familiar disease, and apparently there is no cure for it. It is a disease very closely allied to epilepsy. They have all the aura,—flashes of light and aphasis preceding an attack of headache. Instead of having a convulsion they will have a violent pain in the head, and it comes on at frequent intervals, and may or may not be due to some mistake in diet. These, of course, come and go. The best thing you can do for them is to give them something to regulate their habits. If we regulate their diet and habits we can decrease the number, but if it is an inherited headache, like all inherited diseases it lasts a certain number of years and at a certain period of life they cease to have them, and that is about all the hope you can give them. There are various forms of treatment that will be palliative, but there is nothing I know of that will be specific.

I enjoyed the doctor's paper very much.

Dr. Seale Harris, Birmingham: I think that Dr. Young brought out the most important point in the discussion of headaches, and that is, when possible, to find the cause, and I may say it is not always possible to discover the cause of headaches. I think that one of the frequent causes of headaches, however, after the patient has been thoroughly examined for everything else, is in the gastrointestinal tract. Some fifteen

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years ago Bouchard, in studying the periodic types of headache, discovered that there was in each case that he studied an acute dilatation of the stomach that would come on and last for a period of two or three days, and then the stomach would go back more or less to its normal size. In some of the cases I have observed I have been able to make out that point. Certain headaches are very often associated with dilatation of the stomach and with gastroptosis, but of course gastroposis is also attended with neurasthenia and you could not say it was due absolutely to the condition of the stomach. But I think one of the most frequent causes of headaches is that due to intestinal toxemia, and to a toxemia that comes from the excessive use of meats. The work of Allen Eustis and a number of others along these lines shows that headaches frequently occur in excessive meat eaters, and that with the cutting out of proteins, and purins particularly, that the headaches will subside or be very much benefited. I have observed a number of these cases myself in which there would be a history of taking meats three times a day, and these headaches would be more or less periodic, but not the type of migraine that Dr. Ward spoke of associated with headaches and vomiting. If the urine is examined it will show an excessive amount of indican, a tract of albumin, and a few granular and hyaline casts. Cutting out the meats and using colonic irrigations and keeping the intestinal tract thoroughly cleansed, the headaches will subside. But those patients should be kept on an almost meat free diet for a long time. As I said before, I think a great many headaches are due to the gastrointestinal tract.

Dr. C. S. Chenault, Albany: I would like to ask Dr. Harris to discuss the so-called trench headaches of the soldiers in Europe.

Dr. Harris: I must admit that I do not know anything about that particular headache. The probabilities are that the concussion might have something to do with it. Certainly from the use of the very heavy guns deafness comes on in a great many of those cases, and in many of the cases the soldiers actually go insane. There has been a very great increase in insanity among the soldiers in the trenches. Of course, that is a nervous manifestation, and if there is any tendency towards

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headaches I should think that the very strenuous life that they lead in the trenches and also the high explosives might have something to do with it, the irregular habits, the stress, and all those things. But I believe it is probably an excited, nervous system more than anything else.

Dr. Thorington, Montgomery: Intestinal toxemia is a very common cause of headache. The test for this is so simple that I think all physicians ought to be prepared to make it, because they could eliminate that source very easily. You can take a test tube and put about a couple of inches of urine in it, equal parts of hyprochloric acid and permanganate of potash and chloroform. If the chloroform comes down dark blue you know you have an excess of indican. That is so simple that I believe every practitioner can use it, and it will show intestinal putrefaction.

Dr. Young: I do not know of anything that I can add to what has already been said. I appreciate the discussion of the paper.

In regard to this trench headache I should think that the nitroglycerine in the explosives perhaps would be one of the causes.

Another thing that I wish to bring out is the question of the pain that we have in these nervous headaches. It is usually more of a sense of pressure than it is of pain, or it varies from a sense of pressure up to a pain.

Another type of headache not mentioned is that of pregnancy. Of course, that would come under the toxemic type.

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REMARKS ON THE EARLY DIAGNOSIS OF ULCERS OF THE STOMACH AND DUODENUM.

SEALE HARRIS, M. D., Birmingham.

When our President, Dr. Green, invited me to read a paper on the subpect of "The Diagnosis of the Commoner Gastric Disorders from Clinical Symptoms," it seemed to me to be a splendid subject, and I started out with the idea of writing a paper on that subject, but I found that in order to cover the subject adequately it would be necessary to write a book, so that I thought it best to consider the phases of just simply one condition, and the subject of my paper is' "The Early Diagnosis of Ulcers of the Stomach and Duodenum."

The Mayos in their statistics say that the cases that have come to them have existed over a period of an average of nine years. Finney states that the cases that have come to him have existed over a period of ten years. And most gastro-enterologists and others who have studied those conditions particularly say that the ulcer has existed for quite a number of years before they get to them or before a diagnosis is made. For some time I have been making the effort in getting the histories of patients, to go back over a period of years and find out just the symptoms that those patients held before the diagnosis of ulcer was made, and I think that the principal reason for the failure of the diagnosis of ulcer of the stomach and also of the duodenum is the teaching of the text-books on the subject, that all of us consider the trial of symptoms, of plain, vomiting and hematemesis, when in reality all three of these are late symptoms. The gastric ulcer usually has existed for a number of years before any one of these symptoms appears. Do not misunderstand me as saying that pain, which is the most frequent and the most characteristic symptom of ulcer in the late stages, is not sometimes present in the early stages, because it is present frequently observed as one of the early symptoms, but in a great many cases the ulcer has existed for a long time before the pain is present. Please do not understand me

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as saying that hemorrhage is not an early symptom sometimes, because I have seen two or three cases in which the hemorrhage was one of the first symptoms that the patient has had; and vomiting may be an early symptom; but as a rule the pain and vomiting and hematemesis are late symptoms of gastric ulcer.

It is a very important thing to make the diagnosis of ulcer of the stomach early for many reasons. In the first place, you then look for the focus of infection, that is, a focal infection, and you then remove the cause, and in the earlier years of gastric and duodenal ulcers, with the removal of the cause in the great majority of cases the patients will get well without anything else being done for them

Another reason, of course, is that when the ulcer has existed for a long time you get the complications, the organic stonosis, the perforations and the hemorrhages, and in making the diagnosis early you can relieve those patients before any of these complications come on.

Another reason for making an early diagnosis is that those patients can as a rule be cured without the necessity of prolonged treatment; that is, where the focal infection is removed. Many cases get well spontaneously, and many are cured without the necessity of having to go to bed, simply with a proper diet and with the proper care of their health and with the general treatment.

It might be well at this particular time to discuss the frequency of gastric ulcer. Gastric ulcer is without any question very much more frequent than is generally supposed. Grunfeld states that twenty per cent of the autopsies that he has performed have shown evidences of gastric or duodenal ulcer. Other authorities put it at one in every two hundred autopsies. Still others put it at less.

The early symptoms of gastric ulcer are very much those that are usually described under hyperacidity or hyperchlorhydria. For a number of years, as a rule—not in all cases—before pain, vomiting or hematemesis come on, the patient will complain of discomfort ordinarily twenty to thirty minutes to one or two hours after eating. This discomfort persists over a period of two or three hours, and then is relieved by the food passing into the intestine, or the patient has learned to take a little soda or sometimes to take food that relieves the pain. The patient

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sometimes in the early stages will vomit acid fluid. They will sometimes eructate acid fluid sometimes before vomiting occurs and get relief from that.

Another symptom that is prominent is a burning sensation in the epigastrium. The patient will complain of heartburn that passes off after the height of digestion is over. Then there is ordinarily a tender spot that is constantly present over the site of the ulcer. That, by the way, is a very variable position, depending upon the location of the pyloric end of the stomach. If there is gastroptosis the tender spot is low down, and I think a great number of those cases have been operated on for chronic appendicitis where the ulcer has been low down and sometimes to the right. Then this discomfort frequently comes on at night, in duodenal ulcer. The patient awakens and is uncomfortable, lies awake, and does not realize what it is. Later on the hunger pain is present, but for sometime that hunger pain or pain of any kind is not present.

The diagnosis of gastric ulcer: In a patient who has had chronic indigestion, persistent examination of the feces will in many cases disclose occult blood. I think that is one of the most important tests, though it is not present in all cases. Of course, the patient should be instructed not to eat meats for several days before these tests are made.

The examination of the stomach contents, I think, is of considerable importance in the early diagnosis of gastric ulcer. I think a great deal of harm has been done by the idea that the examination of the stomach contents is not of any value in gastric ulcer, and the statistics of our distinguished friend who is here (the best statistics that we have on that subject) showing that subacidity is about as frequent as hyperacidity in gastric ulcer, and those statistics are, of course, correct. I believe in my cases in which I have been able to make the diagnosis early hyperacidity has been an almost constant symptom, except in those cases with arteriosclerosis. In arterioslerotic cases there is a subacidity. But after the ulcer has existed for a number of years a dilatation of the stomach takes place and you have a retention of food, and in those cases you get a chronic gastritis with a lowering of the degree of acidity.

Of course, in the late stages too there is another reason for the early diagnosis—there are a number of cases of ulcer that do develop cancer, and for a period of some time before the de-

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velopment of the carcinoma at the site of the ulcer the amount of hydrochloric acid is reduced. That is not a sudden change. It takes time for that to be done. So that in the early diagnosis of gastric and duodenal ulcers hyperacidity, I think, is a matter of considerable importance.

Of most importance in the diagnosis of practically all gastro-intestinal conditions—and of conditions in the abdomen and chest—is the X-ray. It is well enough to remember that the X-ray is not infallible, that a negative X-ray report does not mean that the patient has not a gastric ulcer, and that a positive report, the filling defects or other signs that are considered as characteristic of gastric ulcer, that if those filling defects are not present constantly over a period of examinations that does not always mean that the patient has ulcer. There should be repeated examinations, and then, with the filling defect and with the retention of food after a barium meal after a period of five or six hours the diagnosis, in the majority of cases, can be made with the X-ray.

Now there is another very important thing in the early diagnosis of gastric and duodenal ulcers—and I hope that the surgeons and everybody will remember this. The surgeon by making a long incision and examining everything in the abdomen when he operates for appendicitis will find that a great many cases of chronic appendicitis are associated with gastric ulcer. I haven't the statistics, but I really believe that fifteen or twenty per cent of the gastric ulcers that come to me have had an operation for chronic appendicitis and it has not given them relief from the symptoms. A long incision does not add anything to the danger from hernia, because surgeons inform me that hernia is from infection more than anything else and that the whole abdomen might as well be explored at one time. So that if surgeons will make a large incision they will frequently find gastric ulcer when they suspected the gall bladder or the appendix.

Another thing in making the early diagnosis, if the patient does not get better—the symptoms, as I say are vague and not characteristic of ulcer in the early stages—if he does not get better after thorough and systematic treatment and after the case has been studied thoroughly, then an exploratory operation sometimes will reveal the presence of ulcer.

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REMARKS ON THE TREATMENT OF DRUG HABITS.

W. D. Partlow, M. D., Tuscaloosa.

As to the extent of this serious evil, I might state that within the past four years in the Bryce Hospital at Tuscaloosa where we receive only those extreme cases who are sufficiently extreme to be committed to the hospital as insane, we have treated 213 cases. Within the past fifteen years I have observed under treatment about 750 cases. From the figures from the Pure Food Commissioner of the State of Tennessee—2,340 drug habitues, I believe, are the figures—and from the fact that the regulations and restrictions thrown about the administering and dispending of opiates in Tennessee, and conditions in Alabama being fairly similar otherwise, I feel certain a conservative estimate of the number of cases in Alabama is 2,000 to 2,500 drug addicts. The estimates of the number of cases in the United States now vary. I believe the Public Health Department estimates the number at 118,000, and the estimates run on up to two per cent of the entire population, which certainly, I think, is too high.

One of the indices to the extent of this evil is to be gotten from the quantities imported into the country. In going over the figures recently I find that there has been imported—entered regularly for consumption,—into the United States about an average of 500,000 pounds of powdered opium, crude opium and the various alkaloids of opium—500,000 pounds per annum of all combined. When we think that in a pound of opium there are about 11,000 doses, and in a pound of morphine there are about 23,000 or 24,000 doses, then we can get some idea of the immense quantity regularly imported for consumption, not allowing anything for those quantities we are supposed to receive through Mexico and the Mexican side of the country. From this we judge that a very large per cent of the opium entered into the country is consumed illegitimately and a very small per cent is used legitimately in medicine.

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In running over an estimate of the past four years, I find that about forty per cent of the cases we have treated are neurotics before they began the drug, and we class the entire number of cases as those in whom the habit is a symptom and those in whom the habit is the cause of a psychosis or neurosis. In the first division we find the moral imbecile, the immoral pervert and the highly nervous individual. In the latter class we find those who are normal when the drug is eliminated and who have been put on the drug by taking it for some acquired condition. It is alarming to learn that fifty-four per cent of the total number of cases can be attributed to doctors' prescriptions. Dr. Terry, City Health Officer of Jacksonville, has done some very interesting study along this line, and the gist of it all is that some of the profession prescribe sedatives and anodynes, including the opiates, too freely and too generally.

As to what the habit does for the individual: In those in whom the habit is merely a symptom of depravity it merely aggravates and increases their depravity. In many who were normal before the habit was contracted I have found the extreme cases, using large quantities, that went to the very depth of degradation. I have observed ministers of irreproachable character preceding the habit who from the use of the drug have become utterly unreliable as to their word and their honor.

I might report here briefly a case that comes to my memory, of a rather elderly gentlemen who had filled some of the most important stations. He had got into the habit of using opiates by some one advising the use of laudanum for hemorrhoids. He soon found that to take the laudanum by mouth would give him more relief. He soon found he could not do with laudanum; then he took morphine, and was using about a drachm per day when he came to the hospital. He came in separated, as we thought, from all his effects. He was placed in bed, given the usual cathartic and no sedative of any description. At the end of twenty-four hours he was entirely comfortable. We began to grow a little suspicious then. At the end of forty-eight hours he was still comfortable. He vigorously and repeatedly denied that he had any opiates. I sat down beside the bed, had the nurse go out of the room, and I said, "You needn't deny having an opiate, I know you have." The pupils were somewhat contracted, and he was in a good humor. After

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denying it repeatedly, he said: "I see you know I have had it, and I have." I asked him how he had been getting it, and he pulled from his rectum some toilet paper in which was wrapped plenty of the drug.

In private practice, or outside of a public institution, probably complete discontinuance of the drug immediately is impracticable, but from trying the gradual reduction methods, we have found that there is less detriment and less shock from discontinuing all of the drug, watching the pulse, and if the pulse gets very slow give a small quantity, a quarter or an eighth, and usually the cases gets no sedative, no opium, after admission. We give strychnine, but no sedative. Often they do not sleep the second night; by the third night often they begin sleeping. Within three or four weeks they have gained ten pounds, or in four weeks often as much as twenty-five pounds.

In our gradual reduction method it would take three or four weeks to get them entirely from the drug. At the end of that three or four weeks they would be considerably exhausted, and discontinuing the last eighth would be almost as bad as stopping the entire amount. So the gradual method of substituting any other anodyne or sedative I regard as not the best treatment. With caffeine and strychnine, daily warm baths and free elimination by taking quantities of water and good purgation, I have never seen one die, and only in the old and the feeble do we find it necessary to give even a quarter of a grain for two or three days following admission.

As I view the question, the matter of stopping the individual cases is a very small and a very insignificant part of the whole question of the drug traffic and drug habit in the country. The main question we want to consider as physicians of the State is that of prevention. We know that the Harrison law being efficiently enforced has a good effect, but it does not go far enough, and it was not the intention of the Harrison law to cover the entire question of drug traffic. The Harrison law is primarily a revenue law. Its second function is that of requiring registration. It is not the intention of the law to prohibit drug sale or drug administration or to limit it materially. Enforced it does limit it to some extent. But the real object, outside of revenue gathering, of the Harrison law is to require registration in order that each State may regulate the matter. It requires registration with the internal revenue collectors, and

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these records are open to every officer of the law or anyone else legally authorized so that State officials can enforce any statute. What we want is enforcement of our statutes, and this can easily be done under the Harrison act if it is efficiently enforced.

In my opinion, more depends upon three classes of men doing their duty conscientiously, and viewing this important question as it is to make effective the intention that drug traffic shall be discontinued. These three classes are, first, the officers of the law; second, the doctors; third, the druggists. We should expect, first, from the officers of the law that the government Harrison anti-narcotic law be enforced; and second, that from our local county and State officials that the statutes regulating pharmacy be effectively enforced. We should expect from our druggists that no one betrays a trust if not a violation of law to administer or to fill a prescription except it be in accordance with the usual rules of dosage. Then the doctors can do the rest. I believe if there is any one thing in which modern medicine could be criticised it is in this one matter and this one suggestion that less time and attention be given to the uses and therapeutics of opiates and other anodynes and sedatives and that more space and time be given to the dangers of these drugs. The legislators, both National and State, have indeed been liberal in their consideration of the medical profession as regards their legislation on these prohibited poisons. We so frequently see the phraseology, "Provided, This act is not to be construed to include drugs administered by a regularly licensed physician," that makes an exception and leaves the doctors to fill the exception.

Then, with no intention of arraigning the medical profession of Alabama, yet, knowing that drugs are being gotten to habitues in drachm doses and in quarts of paregoric in some way, then it certainly is a conscientious duty of ours to see how that is done. Drug habitues in the State should not be permitted to obtain opiates in the large quantities mentioned.

DISCUSSION.

Dr. Rogan: I quite agree with Dr. Partlow that the method of treatment is a matter of secondary importance, and the more experience I have had with these patients the more firmly I am

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convinced of that fact. In institutional work I fully agree with him that withdrawing the drug at once is the best way to handle the patient, but in private practice it is not always possible to do that. I also heartily agree with the doctor in what he said about the prescribing of opiates, that the real indications for the prescribing of opiates are very few indeed. The practice of prescribing codeine for headaches and such things as that, which all of us probably have been guilty of at times, is certainly a bad practice, and a thing we ought not to be guilty of.

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BLOOD PRESSURE.

P. P. SALTER, M. D., Montgomery.

About one hundred years ago auscultation began to be systematically employed in the examination of the heart. With that injudicious enthusiasm, which at all times has heralded a new method of observation, fabulous qualities and quantities were at first attributed to the stethoscope. People were found to have murmurs before their death and long before the cause of murmurs was known or their significance realized. The statement went forth with all the weight of the highest authorities that these signs betoken previous heart trouble. Today, notwithstanding the enormous amount of attention that has been given to the subject, the whole profession suffers from this untrustworthy observation. Realizing that the determination of blood pressure is but one score years of age, yet even at this early date we see some observers, without ground to back them, state that a correct estimation of blood pressure is our one means of reaching a prognosis in heart affection, while others will state that it is an absolutelv true guide for a definite line of treatment. Our state of development doesn't warrant such extreme assertions. An endeavor will be made to uphold this statement.

In 1886, in Flint's "Practice of Medicine," there is a passage referring to increase of blood pressure in cases of small granular kidney and in cases of apoplexy. A little later, Delafield, in this connection, spoke of cases of arterial narrowing, with increased intravascular tension, but no measurements of pressure were referred to. In 1889, Stengel read a paper on athletics * * * with no mention of blood pressure. In 1903, Cabot presented observations of blood pressure in man, and in 1904, there was a second paper by Cabot on observation of blood pressure by means of the phymomanometer. Since that date we have developed an easily available method by which any physician can gain by measurement essentially accurate information concerning systolic and diastolic pressure in the

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arteries. It has made a clinical entity of the essential hypertension of cardio-vascular disease. It has disclosed the high pressure of the eclamptic state, and the low pressure of a myloid kidney.

The pioneers in the field of cardio-renal-vascular disease early appreciated the great advantage they possessed by this means of graphically measuring arterial tension over the old method of estimating tension by the finger, for the accuracy of tactile estimation of blood pressure was notoriously uncertain, so that errors of 10-80 mm. were common.

Such have been the character and the value of the information the findings have furnished. Sphygmomanometers now constitute a part of the armamentarium of almost every physician as a result of the valuable data that they furnish. In the opinion of so eminent a physiologist as Ludwig, the discovery of blood pressure by Stephen Hales was more important than that of the circulation by Harvey. The clinical study of pressure although a little over a decade old, has developed from a procedure of uncertain and doubtful value to one of precision, equalled by few of the many other methods of daily use by the physician.

Recognizing that the science of medicine is so broad, its ramifications so extensive, and its literature so voluminous that few physicians, if any, are able to accurately follow and intelligently grasp the almost daily advances in all branches of medicine, serves as an ample apology for this brief paper. I have no new thoughts for you who have been so fortunate as to keep abreast with the procession, but to you who have been so busy, since the year 1904, that you were robbed of this opportunity I submit this discussion on blood pressure, its determination, physiology and the interpretation of pressure readings.

Physiology: The maintenance of a normal circulation is essential to good health. Abnormalities in the circulation are either the result of, or result in, disease. A normal circulation physiologically distributes the blood to every part of the body, whereby the normal interchange of nourishment and waste is sustained in all the organs and tissues.

The human blood pressure system comprises essentially, the heart; blood vessels; and the vaso-motor regulating mechanism. The three are intimately associated so that disturbance of any one is followed by derangement of the balance existing among

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them. So far as the heart and blood vessels are concerned, blood pressure depends largely upon the energy of the heart; the peripheral resistance; and the volume of the blood. The last has but a theoretical bearing. It is essentially then the activity of the heart and the nervous control of the vaso-motor system over blood vessel walls that the difference in the blood pressure of the arteries and the veins is maintained.

In general, other things remaining equal, we may state that an increase in the heart rate raises blood-pressure and a slowered rate diminishes pressure, e. g., a slow heart rate, due to vagi stimulation, gives a fall in pressure, while cutting the vagi shows that with an increase in blood pressure we get an increase in the pulse rate. Clinically some observations do not corroborate this otherwise simple postulate, for sometimes high pressure is associated with a relatively slow heart and vice versa. This is easily understood when we take into account, that pressure depends, in addition to heart rate, upon the amount of blood leaving the heart in a unit of time. A slow heart with a long systole may discharge a quantity of blood that would counteract the pressure-lowering effect of the slow heart. On the other hand, clinically a rapid heart may accompany a low pressure, for the increased cardiac rate may not allow of sufficient time for filling of the ventricles with blood and thus less blood is put into the circulation per unit of time and thereby the blood-raising tendency of the fast heart is offset by the pressure-lowering tendency of the incomplete output.

The third factor in blood pressure maintenance is peripheral resistance. Without resistance there could be no pressure. Therefore, the greater the resistance the higher the pressure, other things remaining equal. This peripheral resistance, for our purpose, may be taken to include, changes in the size of the blood vessels, whereby their lumen is increased or decreased, thus diminishing or increasing resistance respectively. In the interpretation of all pressure readings we must settle in our minds which of the three factors is the cause of the hypertension, e. g., in nephritis, it is the increased peripheral resistance, due to the diminished size of the vessels in the kidney that produces the hypertension or is the pressure accounted for by the increased action of the heart, stimulated to the overwork by toxic substances that would filter through the tubules and glomeruli of a normal kidney? Such should be the nature

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of the questions that naturally arise after obtaining an abnormal pressure.

After this brief and incomplete discussion of the physiology of blood pressure we shall consider the methods of its determination. As early as 1733 Stephen Hales published an account of his method of estimation of pressure in his Statical Essays. The instrument used was of necessity crude and results were not accurate, but from that as a basis we now have through the efforts of von Basch, Ludwig, Magendie, Hurthle and others our modern, accurate, and indispensible manometers for all clinical purposes.

The instruments in general use today are of two types. The one a mercury instrument, typified in those of the Nicholson manometer or von Gartner's tonometer; the other a spring or diapragm instrument, e. g., the Roger's Tycos manometer and Faught's manometer. For the general practitioner I believe the last named type of instrument is mort suitable, easier of application, and very accurate. In the technic of estimation given I refer to the spring or diaphragm instruments.

Determination: The patient should be in a comfortable position, either sitting or reclining, and completely relaxed. All subsequent estimations should be taken under exactly the same circumstances. That part of the sleeve containing the rubber bag is placed well on the inside of the bare arm, above the elbow, and the remainder of the sleeve wrapped around precisely as a bandage would be applied, the last few inches being tucked under the preceding fold. The manometer is then attached to either one of the two rubber tubes leading from the sleeve. The inflating bulb and valve are attached to the second rubber tube. This arrangement forms a continuous closed pneumatic system. When pressure is thus raised in the armband by the pump, the amount of force exerted is indicated by the swing of the pointer on the dial, the figures indicating mm. of Hg.

Clinical experience and experimental research have demonstrated that the auditory or auscultatory method of estimating pressure to be easier of interpretation, less often affected by abnormal conditions and vastly superior to the older and less accurate methods of palpation and oscillation. For the above reasons I will discuss only this method of estimation. The armlet is distended until the artery is obliterated. On listening with

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the stethoscope at the bend of the elbow, medial to the biceps tendon, when the pressure in the bag is gradually released, the returning blood-wave in the artery under the stethoscope indicates its presence by sounds that vary from an upper to a lower limit as the external pressure is released. These sounds owe their origin to vibrations of the arterial wall when the normal circular form of the artery is, in the compression area, more or less distorted by the external pressure.

Between the upper and lower limits of sound production marked variations in character and intensity are recognizable. These variations can be described in five district phases:

1. A clear, sharp sound—the index of systolic pressure.
2. A murmur, loud, rough, stenotic, and of variable duration.
3. A distinct change to a clear, loud, snappy sound replacing the murmur.
4. A transformation (usually sudden, at other times gradual) of the clear sound into a dull, muted, altered sound—the index of diastolic pressure.
5. The disappearance of all sounds.

Criteria: The beginning of a clear sharp tone on lowering the external pressure from above the obliteration point, reading the figures on the dial indicated by the point of the hand at the distance the sound is heard, marks the reading point for systolic pressure.

The lowest point of the excursion of the hand on the dial, taken at the instance a transition of sounds from a clear, loud tone to an appreciably dull tone marks the diastolic pressure.

Thus we have obtained systolic pressure, which is the maximum pressure exerted on the vessel walls during the cardiac cycle. This maximum pressure represents the *total energy* of the *heart*.

Diastolic pressure, which represents the tension in the artery due to its own constriction (systole of the artery) during the diastolic phase of the heart. It is then an estimation of the entire load of pressure borne by the whole arterial system during diastole. The difference between the readings of systolic and diastolic pressure represents pulse pressure. This represents the efficient work of the heart and indicates the extent to which it overcomes peripheral resistance. The determination of pulse pressure is of greatest importance in the

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study of diseased conditions, particularly in estimating cardiac muscular efficiency and in determining the prognosis in certain valvular and blood vessel diseases.

Just what figures can be taken to represent the normal blood pressure, a very essential element to know when trying to determine whether a reading is abnormal, will vary with each individual and his peculiarities. The generally adopted figures are as follows: The normal systolic blood pressure in adult males ranges from 105-145 mm. Hg. In children over two years of age 85-110 mm. In females the pressure is about 10 mm. lower than in males. The normal diastolic pressure ranges from 25-50 mm. less than the systolic pressure. The pulse-pressure varying from 25-50 mm. of Hg.

The normal blood pressure varies at different times of the day, and is affected by position, exercise, excitement, baths, digestion, heat, cold, sleep, alcohol, tobacco, altitude and many other things. But as these are all transitory factors, repeated examinations will soon lead to their elimination.

So far we have considered the physiological side of blood-pressure and have left untouched the fundamental fact that a patient consults a physician because he is conscious there is something wrong with him. The doctor, in his examination, may find some sign or sensation which he recognizes as a departure from the normal. He may even recognize the mechanism by which the symptoms are produced and be interested in it from the physiological and pathological standpoint of view; but these are not the points that are essential to the proper performance of his duties, although they may be contributory to that performance. He must view the matter from the patient's standpoint, and, apart from the question of immediate relief the patient's standpoint may be summed up in this question, "What bearing has the cause of this symptom upon my life and future?"

If by chance it should happen that the abnormal manifestations indicated that the trouble was from an abnormal blood pressure, it is up to the observer to determine what is the underlying cause or causes and what bearing the finding has upon the patient and not the fact that he or she has an abnormal pressure. Keeping this in mind we will discuss the findings in some of the commonest diseases.

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So far very little significance is attached to a low pressure finding, yet low pressures are almost constant in all of the acute diseases except epidemic cerebro-spinal meningitis. It is a frequent accompaniment of anemic states, chlorosis, cholera, hemorrhage, rheumatoid arthritis, starvation, diarrheal diseases, shock, collapse, pulmonary tuberculosis, etc.

The value of the test as an aid to an early diagnosis of pulmonary tuberculosis will be more apparent when the general practitioner begins the universal use of the manometer in all of his cases, for it is on him that the profession will greatly depend in the future. Those who have used the test routinely in their diagnostic work have found a uniformly subnormal pressure in pulmonary tuberculosis. Bunton believes that hypotension may be a guiding sign before any physical phenomenon is present in the lungs. Cook makes the following statement: "When low blood-pressure is persistently found in an individual or in families, it should put us on our guard for tuberculosis." And I believe that the test is of such significance that it will warrant the statement that when a low pressure is persistently found in an individual pulmonary tuberculosis should be excluded, not diagnosed. In a series of experiments carried on by Schnitt in early cases of tuberculosis 48 per cent showed a marked lowering of pressure, 37 per cent moderate lowering, 7 per cent tension of 123, and 8 per cent normal pressure. He found that a pulse pressure of 25 mm. or under was especially significant. The test serves us as a prognostic sign to determine the amount of exercise to be safely permitted in cases of tuberculosis.

The low blood pressure found in cases of typhoid fever from the first week is of utmost importance, as it indicates myocardial degeneration. Briggs and Cook claim that there is no pathological condition apart from shock in which blood pressure readings are of more significance. The estimation should be recorded as often as temperature, respiration, and pulse rate. It will be found that there is a gradual and progressive fall in pressure as the case progresses. In case of hemorrhage, there is a sharp, sudden *fall,* while on the other hand perforation will be accompanied by a sharp and sudden *rise* of the pressure. The sharp rise may and often does occur hours before the perforation. It is in just such cases that a change of the management of the case may mean the saving of life.

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In cases of moderate severity of pneumonia the pressure is but little changed. In severe cases it is usually subnormal. When we realize that 43 per cent of the fatal cases of pneumonia die from vaso-motor paralysis and the remainder die from heart failure it is evident that the test should become universal. A drop of 15-20 mm. is perfectly safe, but a progressive fall indicates the need of stimulation. A sudden drop is rarely seen except just before death. A slow, gradual fall of 20 mm. means cardio-vascular asthenia, and calls for an increase in the stimulation. Gibson and Gordon gave us a very safe rule to follow in cases of pneumonia before the age of 60. "When systolic pressure expressed in mm. of Hg. does not fall below the pulse rate expressed in beats per minute the fact is of good augury and the converse is likewise true." This rule is too dogmatic and incapable of flexibility for we have all seen cases that did not conform to the rule and yet had a favorable outcome. But no rule is infallible. It simply gives us a guide that aids us to make a fairly safe prognosis.

In cases of scarlet fever, diphtheria, variola and other acute infectious diseases the test is only of a theoretical value until the stage of convalescence sets in. At this time, in diphtheria, it may serve as an indicator for the institution of certain treatments in order to avoid heart failure, so often the cause of death, while during the convalescent stage of scarlet fever, a sudden increase in the reading may mean nephritis. The hypertension due to such a cause is evidenced by the increase of the pressure even before alubumin appears in the urine.

In considering hypertension it has been found that the cases can be divided into three groups: First, simple high tension without signs of arterial or renal disease; what Clifford Allbut terms "Simple Hyperpyesis," and James Mackenzie calls "Physiological Hypertension;" second the cases of high tension associated with an arterio-sclerosis with consecutive cardiac and renal involvement; third a group of high tension cases secondary to forms of chronic nephritis in association with cardio-vascular disease. From a careful study of the groups it appears to me that most of our cases of high-tension are preventable. I believe the physician should be as energetic in teaching the prevention of arterial hypertension as he is in preventing contagion. This is an age of prevention and as infectious diseases are reduced in frequency more patients live to die of degener-

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ative diseases later in life and diseases of hypertension are on the increase.

The etiology of nephritis, arterio-sclerosis, cardiac, and vascular diseases giving rise to hypertension is a long list of excessive stimulations and extreme mental depressions; a story of great risks taken and great losses borne; of heavy burdens carried and long strains endured; of excessive dissipation; of auto-intoxication; leutic and other infections. It is essentially a history of the modern world; of progress and power and success; of liberty, luxury and their antitheses. The bucolic Swede, the wandering Scotch bard, probably never knew arteriosclerosis except as an accompaniment of ripe old age. Now the Chinese Coolie, the Japanese rickashaw man, the Western athlete, the emotional American, the excitable Jew and all races are subject to hypertension and thus their days are shortened, by the early hardening of their arteries, the criterion that marks our days and numbers our steps upon this earthly pilgrimage.

Well-developed cases of hypertension are incurable, unless the underlying cause happens to be lues. In such cases specific treatment often yields very happy results. We have no single drug that will permanently lower the pressure in cases of hypertension, and in so far as the writer is aware, we have not yet found a method of treatment that is attended with stable results. It is urgent, therefore, to emphasize that the blood pressure test should be used more frequently in routine examinations, so that we will henceforth get these cases in the early stages before any great damage is done and permanent hypertension may be avoided.

Trischer found in 550 patients, with permanent high pressure, above 140 mm., 62½ per cent had definite signs of nephritis, 14½ per cent had signs of probable nephritis, and in the majority of the remainder cardiac, arterial, or liver abnormalities were predominant. Janeway found that in his cases 15 per cent of the hypertension patients showed cardiac hypertrophy and arterial changes. It is evident that the diseases giving rise to hypertension are incurable, hence I wish to emphasize my point again, that we must in the future lay more stress on prevention of hypertension and a routine blood pressure test in all cases. This will give you valuable information, obtainable in no other way.

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The test is indispensable if you have the care of pregnant women. Evans, of Montreal, studied 38 cases who had eclampsia, toxic vomiting and albuminuria, and found the systolic pressure to vary from 140-200. Newell, of Boston, studied the pressure in 450 pregnant women, and concluded that when the systolic pressure was below 100 the patient was below par, and her condition required attention so she could stand the strain of parturition. He believes a persistent systolic pressure above 130 should be carefully watched, and that blood pressure of 150 is the danger line. Fifty cases of the 450 showed albumin at some time in the nine months. Of these 50 cases, 39 had no high pressure and never developed any bad symptoms. He thus concluded that a slight amount of albumin in the absence of high blood pressure is of no significance. He did find that a rise of blood pressure followed by the appearance of albumin, is a combination shown to be a definite sign of the development of toxemia. It is not always the high blood pressure that is significant, but of more importance as shown by Newell, Hirst, Evans and others, is the fact that a continuously high pressure is not as indicative of toxemia as when a pressure has been low and later *suddenly rises.*

The management of cases of hypertension can well be covered by a few rules which are worthy of attention:

1. Do not tell your patient who has a moderate hypertension, few symptoms, and whose kidneys are functioning well to stop eating meat and to starve. Remember, that aside from danger of cerebral hemorrhage, oedema of the lungs, etc., that if the heart is well compensated as evidenced by being normal in size, with no abnormal action, and which responds favorably to effort, the individual is often less a patient than a subject whose organism is undergoing a circulatory regime.

2. Do not tell him his kidneys are good because his urine does not show albumin and casts, take his blood pressure.

3. Do not give nitroglycerine or other pressure lowering drugs to your patient the moment you find that he has hypertension. Perhaps he requires a high pressure to force the blood through his small inelastic arteries.

4. Do not attribute insomnia, nervousness, headaches, etc., in the middle-aged woman to "the change"—test her blood pressure.

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5. Do not give any treatment to your case of hypertension until you have found the underlying cause. If the heart is well compensated and has a good response to effort it is very likely that he needs the extra pressure in order to live.

6. Do not make a diagnosis of neurasthenia until you have taken the blood pressure and made a Wassermann. It may save you embarrassment.

7. Do not exclude syphilis, especially a parental infection, as the cause of hypertension solely because the Wassermann is negative. If lues is the etiological factor in the production of the hypertension specific treatment may permanently lower the pressure. Hypertension from any other cause whatsoever cannot be permanently lowered by any therapeutic measure at our disposal. All drugs now in use are temporary in their effect and injudiciously used may aggravate the case.

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SURGICAL OPERATIONS DURING PREGNANCY.

W. C. Gewin, M. D., Birmingham.

There is no truer phrase than "This is the age of specialties," yet what man dares to endeavor to establish a reputation as a specialist without feeling sure in his own mind that he is just as well equipped by hard study and application to be just as competent in many equally difficult branches.

Just as pregnancy seems to invite as attendants, nearly all the ills woman is heir to, so must the skillful obstetrician meet and recognize all complications. And the surgeon of today must have as thorough knowledge of the variable physical changes caused or aggravated by pregnancy as if that were his sole ambition.

We are never surprised at the necessity of operations upon the generative organs themselves in pregnancy; such as Caesarean section, etc.; those in which we aid delivery, while not always expected, are always held in mind.

But it is of conditions that confront us in the pregnant and non-pregnant alike, that I could speak.

Even in the perfectly normal woman, pregnancy exerts its disturbing influence. There are cases in which the general health is seemingly much improved, but as a usual thing if any chronic weakness exists, it is intensified and aggravated at this time.

Such is also the common belief among the laity; this is the cause no doubt for the serious condition of so many patients when the physician is at last consulted.

During pregnancy the avoidance of major surgery is highly desirable as, at this time, the reserve power is freely expended and excessive exactions are frequently demanded. Moreover, the risks of abortion and liability of premature labor are additional militating reasons.

Despite the soundness of the foregoing statements, operative intervention during pregnancy is not inevitably injurious, nor is the interruption of pregnancy a certain consequence. There

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exist innumerable records of abdominal operations performed during pregnancy. These include appendectomy, ovariotomy, cholecystostomy, nephrectomy, etc. In our experience of the last few years, we have many successful cases.

It has been my experience that if I am confronted with an abdominal condition requiring *immediate* operation, it *does* require the operation principally to save the patient's life; therefore, it is that much more drastic when two lives hang in the balance. And I put the danger of abortion, imminent though it is, as a secondary consideration; many times the danger is as great as though the patient remain undisturbed.

Owing to the fact that many people shrink from an operation until an emergency forces it, the patient often suffers from some chronic trouble, prior to pregnancy. One attack of appendicitis, as we know, predisposes another. She is very apt to think the sudden pain, high temperature, and other accompanying symptoms, due to some disorder of pregnancy—especially miscarriage; and it behooves the physician to have other things in mind as well.

Diagnosis is comparatively easy in the early months; it must be held in mind that the position of pelvic and abdominal organs as pregnancy advances, is also far from normal. I recall one case, a primipara, aged 27, who was six months pregnant at the time of operation—a most dangerous period. She was brought in suffering from an acute attack of appendicitis. I operated immediately, finding a highly inflamed appendix, which would undoubtedly have bursted in a few hours. Every precaution was used in technic and after-care; the patient made an uneventful recovery, and carried the child to term; at end of which time she came back for perfectly normal delivery.

It is possible, as we know, for gonorrheal infection of the tubes and ovaries to occur months after the initial introduction into the body. An acute exacberation of a chronic salpingitis, is at any time, in my opinion, a condition demanding immediate surgical treatment. Instead of waiting until the termination of pregnancy to operate, I consider it good judgment in selected cases to operate immediately. There is the same chance for recovery as in the non-pregnant woman and the probability of freeing her from even graver danger.

One of the strongest causes for abdominal operation during pregnancy is the existence of ovarian tumors. In the great ma-

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jority of cases it may safely be said that the progress of the pregnancy will not be materially influenced by operation. Ovarian tumors are removed before they attain a size which will be sufficient to cause any symptoms attributable to pressure.

When we consider the grave danger of abortion from the many causes attributable to ovarian tumors, the same fear of the operation shrinks considerably. Torsion of the uterus is perhaps more common than is usually believed; thus causing enough disturbance of the circulation of the uterus to bring about abortion.

The prognosis as to the mother in cases of ovarian tumor associated with pregnancy, depends largely upon the location of the tumor is of much greater importance than its size, as a small tumor is very apt to occupy the pelvic cavity, causing an obstruction to labor.

After the presence of the tumor is ascertained by the physician, there should be no further delay in operating. Not only is the new growth a usurper of space, or an impediment to labor, but the progress of pregnancy seems to be a factor in supperation of ovarian cysts. It must be taken into consideration that twisting of the pedicle, rupture and suppuration, may be expected to occur in three-fourths of the cases.

Not only is the operative risk of the mother no greater than the same risk assumed by the non-pregnant woman in the same operation, but the chances for the child are immensely improved by the removal of the mass which might cause great obstruction to labor.

I have in mind one very interesting case of an entirely different nature. We were consulted by a primipara of about twenty-six, three months pregnant, who was in a very toxic condition. She gave a history of habitual constipation, now much intensified. She was unable to retain food in the stomach at all, which she had attributed to her condition; however, she had suffered much with her stomach previous to this time. She was nervous to a marked degree and steadily losing in weight. As her symptoms seemed due to a gastric and colonic disturbance it was decided to give thorough X-ray examination.

The bismuth stomach-meal and enema were administered; both fluoroscope and plates showed a marked ptosis of both stomach and colon. Notwithstanding her condition, or rather because of it, an immediate operation was decided upon and

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was referred to my associate, Dr. Gaston Torrance, for operation.

Both the stomach and colon were lifted and put in place by the celebrated Rovsing method; all precaution due her condition was observed; the patient was kept in bed for one month following. She made an uneventful recovery and was free from all former symptoms. Six months later she was delivered of a fine baby boy. She is now in better health than at any time in her previous adult life.

I admit there are adverse cases in operations during pregnancy, just as in all other conditions; yet I think the difficulties with which we are beset justify us in using every artifice our knowledge yields us; and if we are gratified with even an incomplete measure of success, still our results justify our endeavors in this most difficult field.

DISCUSSION.

Dr. W. R. Jackson, Mobile: I think this is a very interesting subject indeed, and I would like to say a few words. Operations during pregnancy heretofore have been considered very grave procedures, but recent work proves that almost any operation in the pelvis or abdomen can be performed during almost any stage of pregnancy with the exception of the removal of the ovary in the early part of gestation. It has been shown experimentally and also by clinical work that if the ovary from which the impregnated ovum has escaped is removed during the first three months of pregnancy the ovum will be thrown off. The corpus luteum of the ovary from which the impregnated ovum escaped seems to be a fixing material for the ovum in the uterus. This has been shown repeatedly, and now is accepted as a clinical fact. If you remove a cystic ovary before the third month, if it is the one from which the impregnated ovum came, you will lose that pregnancy every time. I have had two experiences along this line myself. Now if you remove the other ovary, where there is no corpus luteum of pregnancy, your ovum will stay. I have removed a large ovarian cyst of the ovary where the corpus luteum was not the cause of the pregnancy with perfect impunity to the patient.

Recently the question came up as to whether to operate on a carcinoma of the breast during gestation. Carcinoma of the breast grows very rapidly during gestation and lactation, and

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this one grew in two months from the size of the thumb to the size of the fist, and the lymph nodes in the axilla were rapidly enlarging. So I operated. There is a reflex connection between the mammary gland and the uterus, and any severe trauma will produce reflex emptying of the uterus, whereas the removal of the gland in toto will not do anything.

Numerous operations for removal of large fibroid tumors have been performed on uteri from five to seven months pregnant and pregnancy not interrupted. Of course, there seems to be exceptions. It is shown, however, that any serious disturbance by trauma with the muscularis of the uterus will cause uncontrollable contractions and expulsions of the contents.

I enjoyed the doctor's paper very much.

Dr. I. L. Watkins, Montgomery: I am delighted to have heard Dr. Gewin's paper. He has raised a question that may come to any of us. I think it unwise to resort to surgery during pregnancy, unless an operation is absolutely necessary for the purpose of delivery or for the purpose of saving the mother. There are conditions where it must be done. In acute appendicitis, the first or second attack, I think it is better to operate than to take the risk of having to operate about the time the woman is going to be delivered, but in chronic appendicitis, with the average pain, with a simple chronic appendicitis, I do not think we are justified in operating. I have always followed this course, and I do not recall having had any untoward results from it. But when the case is acute, it is rather questionable or dangerous to put the operation off. The question is whether you are going to be caught in a trap and have the two conditions at the same time.

As to the operation for ovarian cyst, I think they should be removed. I have done the operation, and I do not recall having but one miscarriage.

Regarding the operation of myomectomy during pregnancy, that is a condition also where we can take a good many liberties. I haven't any doubt that most of you have delivered a woman with fibroid tumors. There is no question about a woman aborting if you operate on a fibroid in the lower segment of the uterus. Many women are delivered of a living baby at term from a fibroid uterus. I have no doubt that many of you have seen just such cases.

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Now, as to the other operations on the vagina: the essayist made one remark that I thought was unusual, namely, the operation for acute salphingitis Personally I do not think he is over justified in operation for acute salpingitis. That may be a very broad statement, but it is true from my standpoint. We have no right to take out a tube until we see whether it is going to get well; you would not cut off your thumb or finger because it was inflamed, and why take out a woman's tubes because they are inflamed. You may have to do it in the end before you get the woman well, but that result is not the rule. Almost nine out of ten of them will get symptomatically well, and many of them will have babies afterwards. Do not take out a woman's tubes and ovaries simply because they are inflamed, even if it is gonorrhoeal. It is very easy to take out a woman's ovaries and tubes, but I would like to see you put them back, but if you do that woman is not much account afterwards. That may not be a very popular statement to make, but I do not hesitate to show my feeling about that. We ought not to take them out unless it is absolutely necessary. Taking out an acutely inflamed ovary or tube I do not think is good surgery.

In cancer, of course, we cannot question the necessity of operation. It is a question of what is best for the woman. It is a question of common sense. It is not your statistics you are trying to take care of, but you are trying to take care of a woman. Let the statistics go. If the woman has got cancer operate on it; if she miscarries let her miscarry; you are trying to save the woman's life.

As to operations elsewhere in the upper part of the abdomen, I think the doctor was very fortunate in his operation, because the woman has enough to contend with when she has an eight-pound foetus below and the stomach and liver trying to press down and get in the same place; she is in a great deal of trouble, and I think he was wise in doing his operation. Operations in the upper abdomen the uterus will stand very well.

As Dr. Jackson has said, this theory of the corpus luteum taking care of the foetus in the first three months is a most timely thing; in my opinion it is absolutely correct and most important. I think we ought to wait until after the third month if we are going to do anything with the ovary.

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Dr. E. V. Caldwell, Huntsville: I would like to bring out one point which has been omitted in this discussion. Suppose an abdominal section is done for some pelvic trouble and the patient is found to be three months or less pregnant, even though one or both ovaries should, from a pathologic standpoint, be removed, yet in view of the fact that it has been demonstrated that the patient would abort if the ovary from which the pregnant ovum came was removed at this stage of pregnancy, it would be necessary to leave this ovary unless its pathology was such to threaten the life of the patient. Then the question would arise, How would you tell from which ovary did the pregnant ovum come, and consequently the one to be left?

Examination of the ovary for the corpus lutea, and its relative size would determine whether it was a corpus lutea of menstruation or pregnancy.

Dr. Gewin: As to operations during pregnancy, I think most surgeons agree so far as the indications are concerned, and it is largely a question of being able to judge correctly the importance of the conditions we are dealing with, and to determine its probable result, with and without an operation.

Relative to the condition mentioned by Dr. Watkins—acute salpingitis—I am glad that he brought it up, and felt disposed to criticism. Evidently the doctor misunderstood me. What I said was, "An acute exacerbation of a chronic salpingitis."

I think we all agree that to operate on an acute salpingitis at any time is to be deprecated.

As to the question Dr. Jackson brought up—I would like to make it plain that I do not ever consider an abdominal operation of any sort upon a pregnant woman, at all advisable, unless the patient's life is endangered by the delay; if such is the case, I believe it is our duty to operate.

In regard to the effect upon the ovum by the removal of the ovary, which was mentioned by the doctor, I thoroughly agree with what he said; yet if the condition demands the operation to save the life of the mother, I consider the operation justified.

I agree with Dr. Watkins that no tube or other organ should be removed unless necessary. It should always be made a point to consider final results, as well as the immediate effect of the operation.

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THE PRESENT STATUS OF THE LOCAL APPLICATION OF RADIUM AND X-RAYS.

WALTER A. WEED, M. D., Birmingham.

Owing to some obscure quality in our being which we, for lack of a better term, call "Human Nature," are very much prone to either ban or bless, most unreservedly and wholeheartedly, any new discovery or invention.

It may be that desperation over our inadequacy to successfully cope with such urgent problems as malignant growths, was the prime reason for the enthusiastic welcome extended to the use of the X-ray. That the X-ray was a valuable agent to the surgeon was soon demonstrated, but because it did not immediately prove itself a wonder-worker, it was relegated to the background to make way for the spectacular introduction of radium.

First greeted as a modern mystery of miracles—now, after the passing of a few years, bearing the condemnation of a few of the best known surgeons, radium is becoming known at its true value, it is not a panacea—it is not a fake; it is, properly used, one of the greatest agents known to the medical profession, and one whose value is not lessened by recognizing its limitations. We have not yet, in any branch of medical science or surgical art, discovered any remedy or method that we can truthfully consider infallible, even in carefully selected cases.

Over a decade has passed since the accidental discovery of the therapeutic value of radium—over ten years of active use; yet only in the last four years have the really practical methods of treatment been developed. We have been hampered by the extreme scarcity and great expense; yet, now that such large quantities of pitchblende have been discovered and utilized in our own country, we may hope for greater opportunities for the therapeutic application of radium.

It is essential that some of the properties of radium and X-rays, and methods of application be understood in order to demonstrate their value in the treatment of disease. The mul-

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titude of X-ray equipments all over the country has to a certain degree worn away its novelty; while the comparative scarcity of radium clinics leaves much to the conjecture of even the average doctor.

Radium is eternally giving off three grades of invisible rays; the alpha, beta, and gamma; the range of penetration of the alpha is very short, but its chemical action great. The beta ray is more penetrating, easily influencing living tissue several centimetres below the surface, also possessing certain chemical properties. The gamma ray is similar to the hard X-ray, but of shorter wave-length and more powerful penetration. Therefore, we have four factors to consider in the therapeutic application of radium; amount of radium and the area to be treated. In the use of X-rays, we take into consideration the voltage and amperage of the current use, instead of 'quantity,' as with radium, the other factors being the same.

So far as is definitely known the action of both radium and X-rays is purely local. They have no effect favorable or adverse on metastases, nor will the treatment of the primary lesion effect a secondary growth of some other part of the body,—the rays must be directly applied to the circumscribed area.

Noted research workers, both at home and abroad, have proved and recorded for our benefit these laws of radium: near the location of a tube of radium, a complete local destruction of all tissues, if so desired; at slightly increased distance there is more or less gradual destruction of malignant cells with increased growth of connective tissue; still more distant there is only partial destruction of cancer cells, but still overgrowth of connective tissue; beyond this there is possibly a stimulating effect to the malignant cells, after which the radium has no effect.

The changes produced in the tissues by X-rays are similar to those of radium but not identical, notwithstanding evidence to the contrary by a number of X-ray and radium workers of more or less repute. Wickham and Degrais say that, "If a current of electric sparks be passed into and split up in a glass vacuum tube (Crook's Tube), it is filled with special fluorescence, and that certain rays, such as the anode, cathode, and X-rays are produced respectively analogous, but not identical with the alpha, beta, and gamma rays of radium." My own

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experience is in accord with this, and leads me to believe that there is a difference in the biological effect of the two agents; that a radium dermatitis or ulcer heals much more rapidly than one produced by X-rays. Admitting that there is a close similarity between the effects of both radium and X-rays there would still be clear-cut indications for both their separate and conjoint use. This is especially true in gynecological work, and in the treatment of malignant conditions involving cavities. Generally speaking, where there is a large area to be treated as in carcinoma of the breast or a large area of obstinate eczema the X-rays are to be desired, while in the treatment of uterine conditions, which will be mentioned later, or in epitheliomata of the mucous surfaces, radium is preferable because of its ease of application and of the fact that it can be brought into close proximity with the part to be treated. It might be said in this connection, that, in my opinion, their combined use is often better than either when used alone.

Doubtless, as we gain in knowledge and experience, we will understand more clearly the varying and equal properties of these two great agents; we will no longer look upon them as rivals, but as partners; we will no longer madly advocate one because we possess it, but endeavor to utilize it to its greatest capacity, and, when necessary, call upon the other. As our technic improves (and we are constantly altering it) we will doubtless discover that in a great many conditions one is as applicable as the other.

The X-ray was first given great prominence in the treatment of epitheliomata, and although its first ardor of enthusiasm is passed, it is not only holding its own, but is constantly gaining ground in the treatment of malignant conditions of the cutaneous surface. In the hands of competent workers the relative percentage of cures is contesting strongly those produced by radium. In several cases I have been able to obtain cures with radium that had resisted treatment with X-rays by some of the most capable roentgenologists of the South. Perhaps the experience of other men may prove the reverse. A thought here is, that after all, it might have been the combined use that did the work successfully. In the treatment of naevi, small eczematous patches, keloids, etc., the concensus of opinion seems to favor radium as the agent of choice.

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In the field of gynecology both X-rays and radium are of inestimable value, and are going to be utilized more and more as our technic improves, and as our results become known.

In cancer of the breast, unless hopelessly inoperable, an operation is always advisable, followed up by a thorough X-ray or radium radiation. The X-ray is preferable because of the possibility of irradiating a large area more homogeneously than if done with radium. The X-rays are also, in my opinion, preferable in large pelvic and abdominal growth for the same reason.

For thirty years and more, the surgical cure of cancer of the uterus was the aim of some of the brightest minds of the profession; tireless efforts were exerted to prevent, by surgical methods, the extension of the disease. The different methods of hysterectomy, and in involvements of the cervix, amputation and cautery—all were tried with varying degrees of success. But even in carefully selected cases the list of fatalities was appallingly high. Even with present improved methods, and in the hands of our most skillful men, more than half of the cases fail to respond.

Admitting these things as true surgery still has precedence in certain cases; the operative treatment of malignancies involving the fundus, is many times preferable. Cancer of the cervix is another story. When the involvement is general, it is a moot question as to whether operation is advisable. It is impossible to remove all the diseased tissue; tissues that formerly clung to the central organs are forced to retract back upon the posterior anchor—that is, the pelvic wall. The pressure upon the sacral nerves is thus intensified, sometimes to the extent of involving the lower limbs, rendering the pain almost unendurable; at the same time the recurrent growth rapidly increases.

We have, therefore, adopted these rules: operate in every approved operable case, as in former days; use X-ray or radium radiation about eight weeks later, guided by the patient's condition; radiate all borderline cases; use radium in all advanced inoperable cases, not in the hope of effecting a cure except in a small percentage of cases, but because, when not too far advanced it may retard the growth over a considerable period of time, nearly always alleviating the pain, and checking the

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foul discharge. Also, it is sometimes possible to render an inoperable case operable.

In cases in which there is a large pelvic involvement, I highly favor a combination of X-rays and radium. It is thus possible to completely cross-fire the tissues, and thereby obtain the combined beneficial results from the hard rays of the radium and the hard X-rays of the Coolidge tube.

Doubtless to a great many the use of both radium and X-rays in the treatment of deep-seated malignant conditions has been more or less a disappointment; however, there are other conditions, not of a malignant nature, confronting the gynecologist in which our expectations have been more than realized, and our optimism justified. I refer especially to uterine fibroids, with or without menorrhagia and metrorrhagia. Also, to menorrhagia and metrorrhagia due to remote and indefinite causes. Speaking of the radium treatment of uterine fibroids, Dr. Howard Kelly says, "That all kinds of tumors have been treated, the submucous, the subperitoneal, and even the pedunculate, seeming to respond as well as the interstitial. In reporting 36 cases he says, "The results (in every case but one) have been either the shrinkage of the tumor or its complete disappearance, and the time occupied varied from two months to a year and a half." "One of the most striking effects," adds Kelly, "is upon the menstrual function, where the radium can in all cases be depended upon to bring about a complete amenorrhoea * * *" If care is taken to avoid giving too large a treatment, it is possible in some cases, especially with young women, to avoid amenorrhoea."

Lange, of Cincinnati, says, "The X-ray treatment of menorrhagia and uterine fibroids by the production of the artificial menopause has been given a new impetus by the invention of the Coolidge tube. "If the proper technic is employed the effect of Coolidge tube radiation on the ovaries is the most certain of medical phenomena. "If sufficient radiation be absorbed by the ovaries they will cease to functionate in their fullest physiologic aspect and a cessation of menstruation will result."

It is thus seen that in the hands of competent men the results obtained, although produced by different agents, are practically parallel.

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My own opinion is, that in selecting the method of treatment of uterine fibroids, we should be governed by the type of tumor to be treated, also, should take into consideration other conditions that might be complicating factors. As suggested by Kelly, "While radium has thus made a place for itself as the treatment of election, * * * the best possible treatment of fibroid tumors,—it does not take the place of operation in the exceptional case—for instance, where there are urgent pressure symptoms, or other complicating conditions, such as diseased appendix, gall-bladder, etc."

The submucous varieties, owing to their location and consequent composition, cause copious and weakening hemorrhages; there is a resulting complication of the endometrium. For this reason radium is preferable to X-rays in such cases, as it acts directly upon the endometrium, thus causing a cessation of the bleeding by its effect upon the endometrium primarily and the ovaries secondarily. While the X-rays perform the same phenomenon, it is by effecting the ovaries primarily, and to a less degree, the endometrium. Therefore the symptoms of radium produced menopause are, in most cases considerably less pronounced than when produced by X-rays. In the interstitial and subserious varieties, I, also, believe that radium is more dependable than X-rays, for reasons already explained, while in the pedunculate, the X-rays are probably as efficient as radium. In the subserous and pedunculate tumors I think their combined use, that is radium in the uterus, and X-rays through the abdominal wall, is theoretically and practically correct.

Radium is of equal value in the treatment of obstinate cases of menorrhagia and metrorrhagia not associated with fibroid tumors. In a great many of these cases it is desirable to bring on the menopause, as there is often danger of impending malignancy. This is invariably accomplished easily with but few of the pronounced symptoms which sometimes accompany the menopause. It is preferable to the X-ray for reasons mentioned above,—the action is more pronounced upon the endometrium than upon the ovaries. In the treatment of menorrhagia of young women the dosage is so easily regulated that the desired effect is produced in most cases without the danger of bringing on a complete amenorrhoea, the functionating power of the ovaries not being entirely destroyed. I have treated a number of patients for uterine hemorrhage, who had

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had repeated curettages without receiving permanent relief; not one of these cases has failed to yield to radium. One advantage not mentioned that radium has over X-rays in the treatment of pelvic conditions is, by virtue of its method of application there is no danger of dermatitis. It is a known fact that the mucous membrane is far more tolerant of both X-rays and radium rays than is the cutaneous surface. This is no little consideration in the treatment of these conditions. When both are used conjointly it is always possible to keep the dose of X-rays well within the bounds of safety.

I have made no attempt to discuss the various conditions amenable to radium and X-rays, but to mention some of those in which they, as therapeutic agents, are firmly entrenched and their supremacy acknowledged.

DISCUSSION.

Dr. L. C. Morris, Birmingham: I am sorry I did not hear all of Dr. Weed's paper, for I was immensely interested, and particularly that part of it which pertains to the treatment of fibroids by means of the Coolidge tube and by means of radium. I have had some opportunities to observe the effect of the Coolidge tube, more than I have of radium. I have had some few cases that have been treated in the Kelly Clinic in Baltimore, and I have had a number of cases that I have had treated by the Coolidge tube at home, with, on the whole, quite satisfactory results. When treatment with the Coolidge tube and radium come in competition with hysterectomy, if it will relieve, it is infinitely to be desired, provided, of course, the dangers of malignancy from the presence of atrophied tumors are not greater than they would be if the tumors did not exist. I think I have had fifteen or twenty cases treated in the last two years with the Coolidge tube, with quite good results, and I know of at least fix or six cases that have gone to Dr. Kelly and Dr. Burnham and have been treated.

Dr. Weed: We do not know why one tumor will respond to radium treatment, and another of similar microscopical appearance fail to respond.

I think we should still be conservative in our claims for both X-rays and radium in the treatment of malignant conditions

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for, as a matter of fact, there is a large percentage of them not cured by either or both methods.

With reference to the small round cell sarcoma, my experience has been that it is much less amenable to radium than is the giant-cell tumor.

In carcinoma of the uterus we get a relatively high per cent of apparent cures, especially if treatment is given in the early stages.

In cutaneous epitheliomata and menorrhagia and metrorrhagia due to, or independent of uterine fibroids, allow me to reiterate that we have in radium and X-rays a means of cure that, so far as I know, is not approached by any other method.

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VICARIOUS MENSTRUATION.

M. Y. Dabney, M. D., Birmingham.

From antiquity down to the present day, the phenomenon of menstruation has been shrouded in more or less mystery. This is largely due to the fact that with the exception of certain species of monkeys, we have no process among the lower animals analogous to menstruation which may be subjected to experimental study. By the ancient Hebrews, during her menstruation and for a certain time thereafter, woman was considered "unclean." In other words, they appear to have regarded it in the nature of an excretory function, a view which of late years again seems to be gaining ground among certain investigators.

Accepting Englemann's statistics, which covered 20,000 cases collected in the United States and Canada, a normal menstruation begins as a rule at the age of 14. Its duration averages from 3 to 5 days and the intervals are 4 weeks, though individual variations entirely compatible with good health, form by no means unusual exceptions to the rule.

From a physiological standpoint we know that during menstruation the pelvic viscera become greatly congested, which is evidenced anatomically by a swelling of the endometrium and the formation of hematomata beneath the mucous membrane. The latter eventually rupture with an outpouring of blood, mucous and a relatively small number of detached epithelial cells. The work of Heape in monkeys revealed the interesting fact that an intra-uterine menstrual blood-clot is formed. Hence, we may logically suppose that the same thing takes place in woman, the clot becoming liquified during its passage through the cervix and vagina through the action of an enzyme termed *thrombolysin* which is found in the excretions. The normal menstrual flow, therefore, on reaching the vaginal orifice is free from clots.

Various workers have shown that the premenstrual stage is accompanied by a slight rise in temperature, pulse rate and

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blood pressure, which during the flow reach a slightly subnormal registration, only to rise again to normal when the period is concluded. So much for the normal process.

VICARIOUS BLEEDING.

Even among the ancients, vicarious bleeding was observed. The 334 cases reported by Rontier, in 1885, are largely collected from early literature. In the "Publications from the Jefferson Medical College and Hospital," Volume VI, 1915, page 136-146, Funk and Ellis give an excellent review of the literature which will be made free use of below.

Much academic discussion has been indulged in regarding the propriety of the name, "vicarious menstruation," and hence the terms ectopic or vicarious bleeding, compensatory bleeding or menstruation, xenomenia and memnes devii have been offered as substitutes.

It is convenient to use the following classification:

1. *Substitutional,* when the vicarious hemorrhage replaces the bleeding from the uterus; and

2. *Supplemental,* when it accompanies uterine bleeding.

Possibly a third division could be made, comprising those cases which have never menstruated through the normal channel, but in which periodic bleeding is extremely rare.

THE AUTHOR'S CASES.

Case I.—M. H., aet. 18, single and white. Presented herself at the University Free Dispensary on November 8, 1916, complaining that she spat blood for three days before and for the same length of time after her monthly periods. Her family history was negative for any similar trouble, for tuberculosis and for new growths. Two years previously she had had an appendectomy performed. She had always enjoyed excellent general health.

The menstrual periods began at the age of 13½ years, occurred from 2 to 4 weeks apart, continued on an average of 5 days each time, were of excessive amount, and were associated with much griping across the lower abdomen. The more recent periods had begun on November 1, October 26, and September 1, respectively.

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The patient asserted that for the previous three months, beginning three days before and continuing for three days after the menstrual flow, she had spit blood several times each day. The amount of blood was small in quantity and was not associated with coughing, dyspnea nor vomiting. As the menstruation in her case lasted usually for 5 days, and since the hemoptysis began three days before and lasted for three days after the periods, it will be seen that the total number of days during which this spitting of blood occurred was 11 each month.

Examination revealed a healthy-looking young while girl of 18, of good frame and well nourished.

Abdominal examination was negative.

Pelvic Organs.—Leucorrhea was seen on the vulva. As the vaginal outlet was virginal, only a rectal examination was made. However, this failed to disclose anything more than a retroverted uterus. Neither tubes nor ovaries could be made out, as the patient was very nervous and quite rigid.

Impression of the Case.—(1) Retroversion of the Uterus. (2) Vicarious Menstruation of the Supplemental Type.

Advice.—Further examination under anesthesia and curettage. This was refused.

Note.—It was hoped that the patient could be prevailed upon to return to town for a thorough study of the respiratory tract, but a letter failed to persuade her to come.

Case II.—M. W., aet. 29, married and colored. Was first seen at the University Free Dispensary July 24, 1916, when she came complaining of pain in the hypogastric region. There was no similar trouble in the family nor was there a history of tuberculosis or neoplasms. She claimed that one year previously she had had some sort of abdominal operation and that she had been informed that everything had been removed but her uterus. However, several careful searches through the files of the hospital she named failed to show any record of her admission, although she had a lower midline scar as evidence of a surgical operation's having been performed somewhere at some time.

She had pneumonia in childhood and malaria at 12. Otherwise her past history was quite uneventful. The menses began at 14, were painful and were of the 28-day type until the operation, since when they have not returned. She was married 8 months ago but has never been pregnant.

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Ever since the operation (one year ago) the patient asserts that she has had two or three nose-bleeds a day for four days, regularly every four weeks. Three or four months ago she was taken with pain in the hypogastrium which has been present continuously since that time, but becomes worse at intervals. The urination was painful and there was urgency.

Examination of the abdomen showed it to be large and fat. Negative save for tenderness on palpatation in the hypogastrium. The pelvic outlet was marital. The cervix was normal, but the fundus and right adnexa seemed to have been removed. On the left side was a nodule the size of a hen's egg, smooth, sensitive and freely movable.

Impression.—(1) Cystic Left Ovary. (2) Vicarious Menstruation of the Substitional Type.

Advice.—Operation for cystic ovary.

Note.—Unable to get in further touch with patient by letter, which accounts for the failure to study the respiratory tract.

CASES IN THE LITERATURE.

The part from which bleeding is most commonly observed is the nose and the next in frequency is the nipple. Lloyd Thomas speaks of a well-developed girl of 17, who had never menstruated, who was taken with violent headaches followed by vomiting and ending in nose-bleed, lasting for three or four days, and occurring each month. There was never any uterine bleeding. McGay's case was of epistaxis occurring with monthly periodicity during pregnancy. Larrabee's patient had her menopause at 35, which was followed by attacks of epistaxis, bleeding from the mouth and hemorrhagic purpura.

The woman reported by Stear was 50 years of age, was married but had never been pregnant. She had menstruated regularly and had undergone the menopause at 48, which was followed by blood from the nipples for three or four days during which time the breasts were painful and of a similar character to those found during the normal menstruation. Cleveland narrates an instance of a similar case of periodic bleeding from the nipples lasting for 8 years after the menopause. The woman mentioned by DeLee had a bloody discharge from the nipples for several days each month for nine years after labor.

Funk and Ellis give a detailed account of a patient who, after two years of scant menstruation, ceased to flow, it being

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replaced by bleeding from the mouth every 28 days until the 47th year. It was unassociated with cough or epistaxis. Parvin's case had swelling of the lips and tongue with oozing of blood at the menses. Hauptman's bled from the lip.

There is recorded an instance of a woman of 31 who had never had any uterine bleeding but who had anal hemorrhages each month (Sinety). Again, a robust girl of 15 had vicarious bleeding from the rectum alone and none from the uterus. As the pelvic organs seemed perfectly normal, she was advised to marry. Later she bore three healthy children. During each pregnancy the rectal bleeding would cease, only to return when lactation was over (Barrett).

Lermoyez tells of a woman who at times for three years would have a periodic discharge of blood from the right ear each month, followed by regular menstruation, and then an aural discharge.

There is an account by Paget of a small effusion of blood occurring each month at the menstrual period in the anterior chamber of the eye, the extravasation becoming absorbed during the intervals.

Among other interesting examples may be mentioned the bleeding from the lupus of the face (Bozzi); from a nevus (Brown); from a sloughing leg ulcer; from the sweat glands (Gould and Pyle), etc.

ETIOLOGY.

It occurs at all ages, in both nulliparous and the parous. Both the cachectic and the robust are represented. Women who have menstruated regularly and those with primary amenorrhea are alike involved. It does, however, seem to occur much more frequently at sites of active or latent disease.

As to the role of heredity, Ventura reports vicarious menstruation in a mother, sister, and two daughters in the form of periodical hemoptysis at times in place of the menses and without any signs of tuberculosis, lues, hemophilia or cardiac disease. Withrow recounts the cases of two sisters and a niece, all married and sterile, though general physical and pelvic examinations could reveal nothing wrong. One of the sisters had never flowed, but the other had epistaxis at intervals roughly suggestive of menstrual periods, and dating from

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puberty to the age of 41. The niece, who never had menstruated, had nose-bleeds every four weeks, always at night, for many years.

The glands of internal secretion are known to be intimately interrelated and to exert a profound influence upon menstruation. Like a well-balanced piece of machinery, in the normal woman, they work in perfect harmony. The ovary is antagonistic to the action of the adrenals; for instance, after the menopause, when the ovary no longer is active, there appear violent vaso-motor disturbances as evidenced by hot and cold flashes, which are undoubtedly due to the unbridled action of adrenalin "storms." Furthermore, Blair Bell has shown in animals that the removal of one adrenal gland will cause partial atrophy of the uterus. The relation of the thyroid is shown by the tendency to enlargement during puberty, pregnancy and the menopause, and the exacerbation of Graves' disease after bilateral oopherectomy. Cushing's interesting experiments reveal the fact that partial removal of the pituitary gland in animals is followed by atrophy of the uterus and disappearance of the follicles from the ovary. As regards the thymus, the onset of puberty is associated with its atrophy.

In 116 double oophorectomies reported by Pfister, 12 cases of vicarious bleeding from the nose and bowels followed over a period of one or two years. Granting that all the ovarian tissue was removed, this would seem to indicate that in the absence of the ovaries, other endocrine glands are capable at times of taking up some of the ovarian functions. As a slight argument in favor of this, we might cite the occurrence of periodic bleeding in males where no ovarian tissue is supposed to exist. Chopart reports a soldier of 19 who had a monthly discharge of bloody urine accompanied by the regular symptoms of menstruation in the female. Rainer's two cases were very similar to it.

TREATMENT.

As in every disease, the treatment varies with the cause.

Amenorrhea may be due to anemia, in which case it should be remedied as far as possible.

Hot douches are advised at the regular time for bleeding.

Some recommend scarification of the cervix.

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If the bleeding is so severe as to impair health or endanger life, transfusion by radical interference may become necessary. In two cases Webster was obliged to perform oophorectomies. Harlan removed the ovaries for bleeding from the lower undeveloped one-third of the vagina of a patient. Fisher did the same thing for alarming hematemesis. Likewise for hematemesis Cantwell stopped the condition by removal of a healthy uterus and the adnexa.

Patton claims to have cured a case of vicarious menstruation from the nose (supplemental type) by submucous resection of a badly deviated septum.

In conclusion, we would like to say that careful history-taking would show that supplemental vicarious menstruation is quite common, that the substitutional type is less so, and that instances of its occurrence in cases of primary amenorrhea are extremely rare. In the absence of menstruation through the normal channel, in some instances the increased blood pressure would seem to pick the vascular area of least resistance, and hence the vicarious bleeding.

Many points still remain to be worked out in this very remarkable condition. For example, Blair Bell's study of uncontaminated hematocolpos-fluid showed that there is neither *thrombogen* nor *thrombokinase* present. He also has demonstrated that there is an excessive calcium content in normal menstrual blood. It would be quite interesting to know whether or not this vicarious blood possesses the same properties as that from the normal woman. If so, would it not somewhat justify our calling vicarious bleeding a menstruation?

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DISCUSSION.

Dr. W. P. McAdory, Birmingham: It is an easy thing for a practitioner or a specialist to call these bleedings vicarious menstruation. I may be old fogey in my ideas of menstruation, but I have got a notion that menstruation is simply where the uterus prepares itself to take care of a child and does not get it and throws it off. We all understand that during the menstrual period we have the changes in blood pressure and the changes in the nervous elements of the patient all over that are liable to cause bleeding from any point, but for the profession to feel that a flow of blood from the nose or from the lips or from the mouth or from any other place except the uterus is relieving the patient, it is all a mistake. It is a good thing to say vicarious menstruation, because the patient likes that, and I don't know of any better term for it, but let's don't fool ourselves. The thing is that if a woman is to menstruate let her menstruate normally; when she loses blood from the nose it doesn't get rid of the material prepared there by nature to take care of a child every twenty-eight days. That is the whole proposition; we can call it vicarious menstruation for the benefit of the patient, but let's don't fool ourselves.

Dr. L. C. Morris, Birmingham: I enjoyed very much hearing what Dr. McAdory said. In rebuttal I want to report a case that has never been reported.

About ten years ago, before the days of radium, and before the invention of the Coolidge tube, a woman, the mother of seven or eight children, came to me for excessive uterine hemorrhage. She had been curetted twice before I saw her and once by me without influencing the bleeding. As the bleeding was most excessive I finally did a supra-vaginal hysterectomy.

Three months after the hysterectomy this woman began having hemorrhage from the stomach, which recurred periodically about once a month for about a year. There were no digestive or stomach symptoms except the periodical bleeding. There was certainly no throwing off of the decidua in this case, as the

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uterus had been removed. She is living today in perfect health. I believe this was a case of vicarious menstruation.

Dr. Dabney: Dr. McAdory and I are absolutely together, I think, on this question. I was reporting what to me is an extremely interesting phenomenon. I did not want to bore you too much by going into the details of an academic discussion of the question of the best term to apply to this phenomenon. That is a mere incident. Of course, it is not a flow from the uterus. If you look into any dictionary you will find that menstruation is defined as a periodic flow from the uterus consisting of blood, mucous and a slight amount of epithelial elements. Dr. McAdory is right in saying that there is usually some pathology at the site of the bleeding. But because of the periodicity of the hemorrhage and in lieu of a better term we call it vicarious menstruation or vicarious bleeding.

I would like to differ from him in the statement that the throwing off of this blood is a necessary prerequisite for pregnancy. We all know of cases in which pregnancy has occurred, for instance, during lactation, when there was no menstruation at all. We have all either seen or read of cases in which pregnancy has occurred even before the onset of menstruation, that is, before there was any evidence of puberty. Young girls who have never menstruated have become pregnant, and we have all known of cases who have become pregnant a few years after the menopause. Now these represent three distinct instances in which there is no menstruation immediately preceding pregnancy.

Dr. McAdory: We understand that all these phenomena that the doctor talks about occur, but so far as menstruation is concerned, my understanding of it is, as I said, that it is not necessary for a woman to menstruate to become pregnant, but when she does menstruate it is evidence that the mucous membrane of the uterus has been prepared to take care of a child and the child doesn't get there.

Dr. Dabney: I grant you that, doctor. I appreciate the discussion of the paper.

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THE CARREL METHOD OF USING DAKIN'S SOLUTION IN BOTH THE PRIMARY AND SUBSEQUENT TREATMENT OF ALL OPEN WOUNDS.

MACK ROGERS, M. D., Birmingham.

At the same time that Lord Lister announced the facts concerning wound infection, by bacteria, he inferentially enunciated the necessity for an agent that would successfully combat them.

And in selecting this combatting agent, we naturally ask ourselves the question, What is necessary? And in answering it we reply:

First. An agent that positively will not affect unfavorably the body cells, but on the contrary, will actually promote a more vigorous and healthy growth of them.

Second. An agent that will certainly both inhibit and destroy all forms of wound-infecting organisms, and

Third. An agent that will promptly and positively neutralize all toxins that are incident to both the life and death of these organisms.

And now, all three of these requisites must be combined in one concrete form.

And this agent must be universally applicable to all forms of open wounds, it must be cheaply produced, easily kept, easily handled, easily transported, and easily applied to wounds.

It should not be painful, but rather soothing, and should minimize the discomfort incident to subsequent dressings. It should not offend either the sense of smell or sight, by staining the wound, the dressings or the hands.

These are some of the chemical and physical properties that should characterize this ideal agent for sterilizing wounds.

And yet, in our nearly half century of zealous, though desultory search for this coveted agent, we have been, like the children of Israel, wandering in the dismal wilderness of all our so-called antiseptics.

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And all to so little purpose! For practically no progress had been made in wound sterilization until Carrel's first paper was read by Professor Pazzi before the French Academy of Medicine in Paris in October, 1915.

In discussing Carrel's method of wound sterilization we are conscious that many of us are already familiar with all the facts concerning it, but for the benefit of those who are not, we will briefly recite a few of the more important things connected with its history, application, results, and so forth.

In the autumn of 1914, when the European War had fully impressed its magnitude upon all civilized nations, the Rockefeller Institute for Medical Research of New York City, sent Dr. Alexis Carrel, as the expert surgeon, and Dr. H. D. Dakin, as the expert chemist, with a full hospital corps, to the French battle front, for the purpose of establishing there a fully equipped base hospital, where Dr. Carrel could have an abundance of clinical material and could have full control, in carrying out his research work on wound sterilization.

Obviously this hospital afforded Dr. Carrel an infinite opportunity for observing all forms of wounds.

This vast amount of observation of not only wounds, but also of the alarming facts, that from 90 to 100 per cent of all wounds brought into the hospital were infected, and that 80 per cent of all amputations were due to infection, and that practically the same thing was true of all other permanent deformities and disabilities. All these facts again confirmed Dr. Carrel's conclusion that wound sterilization was the paramount problem to be solved.

But, what is the Rockefeller Institute?

The Rockefeller Institute for Medical Research is an institution founded in 1901 by Mr. John D. Rockefeller, by giving $200,000 to an incorporated board of seven trustees for the purposes indicated by its name.

As the work grew under the directorship of Dr. Simon Flexner, the necessity for additional funds appealed to Mr. Rockefeller, and in 1902 he gave $1,000,000 more to enable them to buy a permanent home for the institution, that now comprises seven and a half acres, between 54th street on the south and 57th street on the north, Avenue A on the west and East river on the east, situated on a high cliff overlooking East river in the poor section of Eastern New York City, and that is now

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valued at more than four millions of dollars. They have a modern hospital, isolation pavilion, laboratory building, animal house and power plant,—the latter three were completed last fall. In addition to the 7½ acres of land, buildings and equipment in New York City, the institute owns and operates a farm of five hundred acres near Trenton, New Jersey, for animal breeding, and care for the Department of Animal Pathology.

And, besides all this, Mr. Rockefeller has given more than twelve millions of dollars as an endowment fund for its perpetual maintenance, and to afford pensions for the staff of workers composed of more than sixty men.

This is the institution that is behind Dr. Carrel and Dr. Dakin in their research work.

Who is Dr. Carrel?

"Doctor Alexis Carrel was born at Lyons, France, June 28th, 1873; was graduated from the University of Lyon, M. D., in 1900; was an assistant professor in the University of Lyon, 1900-02; came to America in 1905; became affiliated with the Rockefeller Institute for Medical Research in 1909. In 1912 he was awarded the Nobel Prize for his work in blood vessel suture, and for his success in the transplantation of vital organs, also for his success in the cultivation of tissue 'in vitrio.' In August, 1914, when the present war broke out, Dr. Carrel was on a visit in France, and, being still a French citizen, his services were immediately requisitioned. The present hospital at Compeigne is supported by the Rockefeller Institute under Dr. Carrel's supervision by a special arrangement between the French Government and the Rockefeller Institute."

Who is Dr. Dakin?

"H. D. Dakin, D. Sc., University of Leeds, England, was connected with the Herter Laboratory in New York at the time the European War broke out. Dr. Dakin went to France under the auspices of the Rockefeller Institute where he worked with Carrel for about two years. Until recently Dr. Dakin has been working with Professor Cohen, of the University of Leeds, and Dr. Kenion, representing the British Medical Research Society."

So in December, 1914, these two scientists, Carrel and Dakin, with the support of the Rockefeller fund, began, in earnest, the solution of this problem of wound sterilization,—and, after experimenting with more than two hundred antisep-

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tics, they finally adopted sodium hypochlorite as the base on which to construct their ideal antiseptic.

But it was June, 1915, before they determined definitely the other agents, and the proportionate parts of each that should be combined with it, together with the exact chemical technic that is absolutely necessary for the correct production of Dakin's solution.

You will observe that we are purposely avoiding both the chemistry and technic of preparing this solution.

We are doing so for two reasons; one is that it would make this paper too long, and the other one is that we realize the force of the warning sent out by Carrel, Noland and Sherman, that none but the competent and well-equipped chemist and laboratory should attempt to produce it.

A full and comprehensive description of this whole subject may be found on page 1059 in the December, 1916, number of the Southern Medical Journal, by Dr. Lloyd Noland, of Birmingham, Alabama, or on page 257 in the March, 1917, number of Surgery, Gynecology and Obstetrics, by Dr. William O. Sherman, of Pittsburgh, Pa. And in this connection, we wish to gratefully acknowledge our indebtedness to both of these splendid young surgeons, for their generosity in permitting us to use these articles so liberally in the preparation of this paper.

When Dr. Carrel had finally perfected both Dr. Dakin's solution and his own exact technic of applying it, and this latter was not completed until February, 1916, he realized what had been accomplished, and at once sought to promulgate these results.

The announcement was made directly to the authorities of the United States Steel Corporation and the suggestion was offered that since they sustained so much commercial loss on account of the disability of their employees, incident to these infected wounds, that it would be a good commercial investment, to say nothing of the relief to suffering humanity, to send one or more of their medical representatives over there to study in his hospital his method of wound sterilization. These suggestions were immediately acted upon, and Dr. Lloyd Noland, Medical Director of the Tennessee Coal, Iron and Railroad Company, of Birmingham, Alabama, and Dr. William O. Sherman, Medical Director of the Carnegie Steel Company, of Pittsburgh, Pa., were commissioned.

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These two progressive young surgeons made this pilgrimage together last summer, and brought back to us this magnificent contribution to both scientific medicine and to suffering humanity, and just how faithfully they acquitted themselves can never be properly appreciated until we have carefully read their reports that have already been referred to.

And now we will quote to you directly from Dr. Noland's paper, "The Carrel Method of Wound Sterilization with Dakin's Solution":

"As soon as a patient is received he is taken directly to a dressing room, where his clothing is removed and a preliminary examination made. He is then wheeled to the X-ray room for careful fluoroscopic examination. If the patient's general condition permits, he is then taken to the operating room and put under ether anesthesia. After shaving and preparation of the field with tincture of iodine, the entire tract of the missile is opened widely and all foreign bodies, such as fragments of shell, pieces of clothing, completely detached bone fragments, etc., are removed. All blackened and badly macerated tissue is excised, followed by the most careful hemostasis.

The entire procedure is carried out under the most rigid aseptic and antiseptic precautions, the wound being frequently wiped out with sponges soaked in Dakin's solution. Small instillation tubes consisting of rubber tubing about one-eighth inch in diameter, closed at one end, and with eight to ten small perforations near the closed end are then introduced into the wound, the number used depending upon the size of the wound; the object being to reach all parts of the wound with the fluid instilled through the tubes. These tubes are held in position by gauze sponges wet with Dakin solution which are lightly placed about them, but never packed tightly into the wound. Neighboring skin surfaces are then protected by vaseline gauze and the whole covered with a light gauze and cotton dressing from which the tubes protrude.

After the patient is placed in bed the installation tubes are connected with a glass "telltale" with the necessary number of tips. The "telltale" is connected by rubber tubing with a glass container, filled with Dakin's solution, suspended about thirty inches above the level of the patient. An ordinary tubing clip is placed on the tubing just below the container. At two-hour intervals throughout the twenty-four, the attending nurse re-

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leases the clip sufficiently to allow the filling of the wound with the solution. A little practice will enable her to do this accurately enough to prevent soaking the dressings or bed.

Once in twenty-four hours the wound is dressed, observing the most careful asepsis. The lightly-placed gauze sponges are removed with forceps and the tubes inspected and replaced if necessary. Any secretion is wiped out of the wound with a sponge wet with Dakin's solution, fresh sponges wet with Dakin's solution are placed about the tubes, and the dressing applied as before. It is usually necessary to replace the tubes every third or fourth day, as the solution destroys them in a very short time.

Every second day a smear of material taken from various parts of the wound with platinum loop is made, is fixed by heat, stained, and examined in the laboratory. A report showing the average number of bacteria by field is sent to the ward and entered on a microbic chart attached to the patient's record, which shows graphically the bacteriological condition of the wound, and which at Compiegne is regarded as much more important than the temperature chart.

When the bacteriological report shows a microbic index of less than one microbe to every five fields for two consecutive days, the patient is taken to the operating room, anesthetized, and the wound closed by suture exactly as though it were a fresh operative incision.

The above methods have been followed for six months, or since February, 1916, with brilliant results. The vast majority of wounds, even though involving long bones, with great destruction of tissue, are sterilized and closed in from five to twelve days. Ninety-eight per cent of the wounds closed with a microbic index of one to five have healed by first intention. Of one hundred and fifty-five wounds treated prior to and during my visit, one hundred and twenty-one were closed within the first twelve days, and fourteen in from twelve to eighteen days. The remaining twenty were allowed to granulate for experimental reasons, or on account of large loss of substance.

This method for the first time puts wound treatment on really a scientific basis and demonstrates that sterile wounds will granulate with surprising rapidity and with practically no pain, and proves that what was formerly called sluggish granu-

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lation was always due to infection, even though there was no visible evidence.

The treatment is kept up until the wound is entirely closed even when the bacteriological report is satisfactory, as reinfections may develop even under the most rigid precautions."

Dr. Sherman tells us that Dakin's solution represents but 20 per cent of the cure, while Carrel's technic in the use of it represents 80 per cent of the cure. This should emphasize the necessity for carrying out Carrel's method to the last detail. Because if this solution and technic of using it will certainly keep a wound sterile and sterilize one that is already infected, so thoroughly that after only a few days it can be brought together and sutured securely, it abundantly repays for all the time and trouble incident to its use.

Dr. Noland tells us that this method of treating wounds has reduced the wound-day-loss-of-time more than 52 per cent in his work.

The following are a few case reports of the results that have been achieved by this method:

Dr. Charles Whelan, of Birmingham, reports the following case:

On February 10th, Mrs. A. B. was burned in cleaning gloves with gasoline. The burns were on both forearms, extending from elbows to finger tips. In degree both burns were of the third degree throughout their entirety. On first or emergency visit no attention was paid to the burned surfaces. Morphine to quiet and overcome shock was given, the burns being merely covered with sterile gauze. At the end of 12 hours the entire burned areas were covered with sterile gauze, 4-ply thickness, which had been saturated in Dakin's solution. The nurse was ordered to keep the gauze wet by using the fluid every 2 hours—a Dakin outfit, composed of flask and dropper, being employed. The wound was dressed—that is—gauze changed every second day for three or four days. By this time the burned area began to separate, the exudate increased to such an extent, that for the purpose of cleanliness the wound was dressed twice daily. At the end of the seventh day sloughs were easily and painlessly lifted away. I was able to remove sloughs each day, all the while applying Dakin's fluid every two hours until at the end of 14 days the entire burned area appeared as bright red granular surfaces, scattered over which

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were islands of new growth. Each day thereafter, the 4-ply gauze saturated in Dakin's solution, was changed, the nurse still keeping gauze wet every two hours. On the 35th day, the right hand had entirely recovered itself, except for a small "rare" surface, the size of a dollar. There are no "tendon" catches, she had good use of her right hand and what impaired function she now has is attributable largely to non-use. The left hand was slower to heal than the right. For some reason it seemed impossible to keep the gauze saturated with Dakin's fluid (the sine quo non of this treatment). We then gave up the use of gauze and applied four ordinary lamp wicks to the arm, employing them as splints. We found these of great value, being able to keep the wicks well soaked. They proved more cleanly than gauze and gave less pain at dressing. (The ordinary lamp wicks are sometimes woven quite closely and it may be necessary to remove one weave in order to hold fluid.) On April 12th, just eight weeks after burns, the patient is able to do her household duties, dresses herself and has good use of both hands. As already stated, what impaired function she has, is largely due to non-use. There are no tendon catches on either hand. The left hand, except for a small area midway between elbow and wrist, has entirely covered over.

After seventy-two hours, notwithstanding the seyerity of the burns, at no time did the patient's temperature exceed one hundred and a half. The pulse was never over 100 and she took nourishment regularly with relish.

Dr. C. A. Donnelly, Birmingham, Ala., reports the following case:

Mr. G. H., age 35 years. Developed lobar pneumonia February 18, 1917. The entire left lung was involved; he had a crisis on the 11th day of the disease, five days after crisis his temperature showed an elevation of 101 F., physical examination pointed to fluid in the left pleural sac;

The temperature continued to fluctuate between 99 F. and 101 F. until March 14th, 1917, at which time I did a paracentesis which revealed pus.

The eighth and ninth ribs were resected and three pints of pus evacuated, drainage was instituted, the drainage was very profuse and purulent until March 21st, at which time I started the use of Dakin's solution, which consisted of two hourly instillations of the solution through three small rubber catheters;

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they were perforated at five or six places near ends and placed in the most remote recesses of the cavity and connected up to a single distributor tube; the arc at the site of the opening was very much inflamed and contained a slough in the center. Gauze was wrapped around tube and laid over the slough and inflamed tissue so that it would be continually moist with the solution.

The character of the drainage showed a decided change in quantity and quality within 48 hours, the slough disappeared in five days and general appearance of the wound became healthy, the tubes were shortened every third day and skin kept protected with vaseline;

At present writing, April 11th, 1917, the drainage has practically ceased and wound is ready for closure, 21 days since the institution of Dakin's solution.

Dr. Lloyd Noland, of Birmingham, Alabama, reports the following cases:

Case 1.—W. E. B., white, American, male; age 28; machinist. Admitted to Ensley Hospital October 26, 1916, at 11:00 P. M. Temperature 101°; pulse 100; respiration 20; white blood corpuscles 28,000.

History. Patient has been ill for eight days with intense pain in right side of abdomen, but had consulted a physician only on first day of illness and on day of admission to hospital.

Physical Examination. Showed a large mass in right iliac region with marked local rigidity. Diagnosis, appendiciceal abscess.

Operation 8:00 A. M., October 27th; ether anesthesia. Gridiron incision. At least 500 cubic centimeters of fetid pus escaped when the peritoneum was incised. A gangrenous appendix perforated near the base was found laying fairly free in the large abscess cavity and was removed. The cavity was sponged free of pus and two Carrel installation tubes were inserted. Two silkworm gut sutures which included only skin and the external oblique were inserted, one at each end of the incision. Ten cubic centimeters of Dakin's solution was installed into each tube at two-hour intervals for the first twenty-four hours, and at three-hour intervals for the succeeding period of convalescence. On October 28th the patient's temperature dropped to normal. There was a slight elevation (100-99) on each of the two succeeding days, but from the 30th, the temperature remained normal. The abscess cavity and the abdomi-

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nal incision closed rapidly, and on November 18th, twenty-three days after operation, the patient returned to work.

Case 2.—C. M. B., white, American, female; age 15; school girl. Admitted to Ensley Hospital November 16, 1916, at 11:00 A. M. Temperature 101°; pulse 134; respiration 32; white blood corpuscles 18,000. History—Patient had been violently ill for five days with intense pain which began in right side, but rapidly spread over entire abdomen. The family physician had made a diagnosis of typhoid fever.

Physical Examination. Showed a greatly distended and markedly rigid abdomen. The patient's expression was anxious and all indications pointed to a general peritonitis.

Diagnosis. Probably perforated appendix, with general peritonitis. Operation 1:00 P. M., November 11; ether anesthesia. Right rectus incision. On incision of the abdomen a large quantity of pus escaped. The parietal and visceral peritoneum showed an advanced peritonitis, with the presence of a large amount of shaggy exudate. The appendix was lying freely in the abdomen, was gangrenous and perforated near the base.

The appendix was removed as rapidly as possible, but with some difficulty. The abdominal cavity was sponged fairly free of pus and a counter incision was made at McBurney's point on the left side. Two cigarette drains were inserted into the pelvis on either side, and in addition six Carrel installation tubes were inserted, three on each side, distributed over the cavity. No closure of incisions was made. At two-hour intervals throughout the first twenty-four hours, 10 cubic centimeters of Dakin's solution was instilled into each tube. From the second to the fourth day, the installation was made at three-hour intervals. From the fourth day to the seventh day, at six-hour intervals.

The patient's improvement within twelve hours after operation was most marked, and within three days her temperature reached normal, where it remained. Convalescence was uninterrupted and on the twenty-seventh day, the patient was discharged from the hospital as cured, the abdominal wounds being entirely cured.

Case 3.—A. D. N., white; American; male; age 21; craneman. Admitted to Ensley Hospital December 16, 1916, at 1:00 P. M. Temperature 102°; pulse 104; respiration 24; white blood corpuscles 20,000.

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History. Patient had been ill for five days with all symptoms of acute appendicitis, but had been advised by his physician against operation.

Physical examination showed a large mass in right iliac region.

Diagnosis. Appendiceal abscess.

Operation. 2:30 P. M., December 16th, 1916. Right rectus incision. From four to five hundred cubic centimeters of pus was evacuated and the appendix which was perforated was removed. The cavity was sponged free of pus and two Carrel installation tubes inserted. Subsequent treatment was similar to that in Case 1. On his third day, the patient's temperature fell to normal where it remained. The closure of both abscess and incision was very rapid and on December 30th, fifteen days after operation, the patient returned to work, the external wound being entirely healed.

Report of one of my own cases:

January 19th, 1917. W. M. K., while working with a circular saw had his hand drawn into it, resulting in the teeth of the saw cutting into the middle joint of the left thumb and the meta carpophalangeal joint of the index finger in such manner as to destroy the articulating surfaces of both bones in both points, doing great damage to the soft parts but only partially destroying the tendons of each joint, the backs of all the fingers were badly lacerated, exposing the tendons excessively.

I saw him in twenty minutes after the accident, the bleeding had partially checked and he said it was not very painful. I applied dry sterile gauze all over everything at once, making no attempt to clean up the hand, placed him in my auto and carried him to my office. I obtained fresh Dakin's solution at once and as I removed the original gauze dressing, I cleaned up the wound with forceps holding pledgets of absorbent cotton with Dakin's solution, and by applying forceps controlled all bleeding.

I then twisted strips of gauze to such sizes as adapted themselves to the particular wound and placed them well down into the bottom in such way that I was sure the fluid could find its way to the remotest part by following the gauze. Of course they were all very superficial; we then applied gauze bandages lightly and saturated all with Dakin's solution.

I explained to the patient how necessary it was to keep the dressing moist and provided him with plenty of fresh fluid

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each day when he came to the office for dressings. These twisted strips of gauze were removed with forceps and new ones applied each day without pain or discomfort till the wound began to fill up. We then simply used the surface dressings.

I had given a very unfavorable prognosis about the joints and tendons, but at each successive dressing he assured me he could use those joints. This continued until the 19th day of February, when I discharged him entirely healed and he had good use of both the joints and no tendon catches or deformity, just one month to a day in obtaining this splendid result.

He is working now every day as efficiently as ever as an expert wagon and auto body maker, where these joints are constantly in active use.

Dr. Torrance, of Birmingham, reports the following case:

Patient was admitted to infirmary with temperature of 101° and ran a septic temperature for four days. Patient's condition prevented operation. The mass by this time had extended down into calf of the leg. The knee joint was swollen. A tubercular and Wasserman test were negative as well as the X-ray picture. It was finally decided after the palliatine treatment proved useless, to open the leg. An operation. The leg was opened. The pus was evacuated and incision was made on the internal surface for drainage, which was a gauze wick. The following day the drainage was removed, two rubber tubes inserted. A Dakin's solution drip was started and used every two hours, the dressing being changed twice a day. The temperature began to drop and the third day was normal. The patient began to improve. The infection ceased on the fifth day. The wound healed by primary union. The patient left the hospital in twelve days.

"INFECTION OF FOOT."

The patient was admitted to the hospital with a painful and swollen foot which had been mashed by a motor car four days previous with an infection. The necratic tissue was removed. The third and fourth metacarpal bones and toes were removed. Iodoform gauze was packed in incision and no suture was taken. The following day the iodoform gauze was removed and wound dressed and Dakin's solution two-hour drip method

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was started. The infection began to cease and the fourth day had disappeared and on the fifth two silkworm sutures were used to approximate wound which soon healed by primary union.

I will now exhibit to you a few bottles of Dakin's solution which I hope you will pass around. Also the apparatus used in applying it.

Caution.—Keep the solution in a cool, dark place and especially well stoppered. On standing, or by exposure to air, it becomes custic and will irritate the tissues and excoriate the skin and should not be used. Therefore, it should be comparatively fresh when used.

DISCUSSION.

Dr. A. L. Nourse, Sawyersville: I should like to add an emphatic endorsement of the Dakin's solution and express my appreciation of the presentation Dr. Rogers made. I was an early user of Dakin's solution. In chancroidal infections where there is a phymosis if one will take the Dakin's solution and have the patient inject it under the prepuce at frequent intervals the results are almost marvelous.

Dr. Rogers: This solution is being tried out on mucous membranes. It has been found that the peritoneum bears it perfectly, and it is being tried now in the eye; it is being tried out in the urethra, and wherever they find an infection they are trying it out now on a very conservative and safe scale. They are feeling their way. But it is certain that it does not irritate the conjunctiva and the cornea. They have tried it out on a number of eye cases, where they had injuries of the eye with infection, and they have been sterilizing those eyes with this solution. And they have been using it in the urethra in a very limited way, but I cannot vouch for the result as yet. But they are using it in the peritoneum with splendid results. A number of cases have been reported where the appendix abscess cavities have been flushed and instilled with this solution, and they have healed more rapidly than by any other way. It costs fifteen or twenty cents a gallon to actually produce the fluid, but by all means keep it well stopped, and obtain it fresh as often as possible. These are essential warnings and protect the skin around the wound by vaseline.

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ACUTE ILEUS FOLLOWING ABDOMINAL OPERATIONS, WITH REPORT OF TWO CASES.

D. C. Donald, M. D., Birmingham.

Intestinal obstruction as a result of operation, recent or late, furnishes us today with a large number of cases requiring post-operative surgical interference. Post-operative intestinal obstruction is of two kinds,—one directly follows and complicates an abdominal operation,—the second results from subsequent formation and persistence of adhesion due either to the performance of an operation or the existence of conditions underlying such operation. With the great increase of abdominal operations it is but quite natural that there should be a seeming increase in the number of post-operative obstructions in spite of the recent modern surgical skill. In this paper I will only mention those conditions leading up to acute intestinal obstructions directly following abdominal operations. This form is often seen by the surgeon doing much intra-abdominal surgery and is of two different kinds,—one mechanical, the other paralytic. In many cases it is difficult or impossible to tell which variety is present. Under paralytic obstruction we have a subdivision called adynamic and dynamic ileus.

Etiology.—The conditions favoring acute ileus of a paralytic type most often follow extensive operations on the mesentery, disturbing its circulation and motor nerve supply, paralysis of a loop bowel returned after a prolonged strangulation such as femoral hernia, injuries to the spinal cord, injuries to the afferent nerve. Under this head we have reflex paralysis produced by the transit of gall stones in the ducts, torsion of the omentum, pelvic operation and operation of the kidneys, etc.

Mechanical ileus comes on several days afterwards due to compression of bowels by adhesion such as appendix operation and kinking of the ileum with obstruction and of structural ileocecal valve.

In order to be able to intelligently treat any condition one should have a thorough understanding of its etiology and this

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is particularly pertinent as regards the question of post-operative ileus.

The two questions for consideration primarily are, is the condition mechanical or paralytic. Both premises have for many years had supporters, those of the mechanical conception fathered by observers as far back as 1842, and those maintaining a primary paralytic factor following the precepts laid down by Brinton in 1859. There is no question that both factors are present when the condition has developed but which is primary? Does the dilatation cause the kinking in the duodenum or the kink in the duodenum cause the dilatation? As has been so definitely demonstrated, the evidence favoring compression of the duodenum by the root of the mesentery is a primary factor in producing dilatation of the stomach is equally conclusive that the compression is secondary. The recent literature with reports from analyzing a large series of autopsied cases, only one-third of them showed evidence of duodenal compression. Possibly more illustrative is the fact that acute dilatation has occurred in several instances after a gastroenterostomy which was found potent at autopsy. All of these clinically observed phenomena have been satisfactorily and conclusively substantiated by experimental studies and would indicate that the compression of the duodenum is secondary. How are we to explain its occurrence for it does occur as shown by the regurgitation of bile indicating that the obstruction is distal to the papilla of Vater and high up in the intestine evidenced by the lack of fecaloid and further by its absolute demonstration at autopsy. With these facts in mind consider what may occur at the only absolutely fixed portion of the small intestine, namely the transverse duodenum where it is crossed by the root of the mesentery. It is pictured clearly that there is what may be termed a physological tendency to obstruction or constriction. This fact is present in the paralysis of the intestines. The potential obstruction quickly becomes an actual one. The secretion from the stomach and duodenum continue to be poured out and the vomiting reflex is absent. Thus a vicious circle is formed, each factor accenuating the other.

Considering these facts it seems reasonable to conclude that the original factor in the production of this gastroenteric paralysis is not to be explained on a purely mechanical basis. This then leads to but one inference, that the condition must

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be one of nerve exhaustion produced either through direct trauma or through reflex impulses.

In substantiation of this inference we have confirmatory experimental evidence. It has been proved that the excitation of the splanchnic nerves markedly inhibits both the gastric and intestinal peristalsis, while it has been demonstrated that if the vomiting reflex is destroyed by cutting the vagi, acute dilatation invariably occurs. This interference with the normal nerve tone of the intra-abdominal structures is probably caused in a majority of cases reflexly as it very infrequently follows operations on the stomach itself, but rather manipulation of adjacent organs. One theory has been advanced from an experience in two cases that intoxication from the over activity of the colon bacillus in the bowel may possibly prove of etiologic import, but neglect to appreciate that in many instances where we have known foci of extensive colon infection there is no accompanying paralysis of the gut. *Most probably the phenomena is due to the absorption of peculiar and highly specialized toxins of unknown nature.*

Symptoms and Signs.—The symptoms are few, characteristic and easily recognized. The cardinal factors in the condition are vomiting, distention and collapse. The less important symptoms, pains, thirst and constipation, regurgitation of fluid from the stomach, first of a dark brown color, later becoming a fecal in color and odor.

Distention.—Is general. In some cases most marked in the region of the stomach where the stomach can be outlined by external abdominal examination.

Collapse.—Collapse rapidly develops in this condition and almost pathognomonic languor on to which there is engrafted the very evident symptoms such as small, wiry, rapid, running pulse and shallow respiration. Thirst is unbearable. Constipation is absolute. Temperature not of any special significance, not exceeding 99½.

Prognosis. In untreated cases is bad. In cases early recognized and properly treated the mortality is reduced practically to nil.

Treatment. Treatment may be considered under two heads, —prophylactic and active.

Under prophylactic for those highly nervous cases where the operation is not for an emergency, allow them to remain in the

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hospital or in bed at their home for several days. Avoid excitement, give some sedative to assure quiet rest to the mind and refrain the patient from worrying over the approaching operation, thorough evacuation of the intestines, restrict diet to soft food up to day before operation. Allow them to have liquids up until six hours before operation.

Active Treatment. Consists primarily of immediate lavage of the stomach, using soda solution, teaspoonful of soda to a quart of warm water; washing out the stomach with large quantities of water acts in two ways—by its cleansing properties and by stimulating the muscular fibre of the stomach to contract. Repeat the stomach washings ever four to six hours. Relieve the bowels by high rectal enemas of a stimulating nature, using glycerine, alum, and in cases of nervous patients, tincture of asafoetida. Repeat enemas three or four times daily, restrict fluids by mouth, relieve thirst by cold ice cloths to lips. Supply the necessary fluids of the body by hypodermoclysis of normal salt solution, pint every four hours.

Medical Treatment. Do not administer any form of a cathartic. There are several drugs on the market which stimulate contraction of involuntary muscles. Of these I may mention the two most popular. Eserin salicylate given 1/30 grain doses and putruitin, but personally I have never resorted to either. Sometimes an intravenous administration of 20 to 40 c. c. of hormoman has given good results.

Operative Treatment. Should be done in all mechanical ileus as early as diagnosed, but if in doubt it should be discontinued until the above conservative treatment has been conscientiously observed and carried out by an intelligent orderly or nurse with the assistance of the surgeon or resident doctor; but in paralytic ileus, if surgical interference is attempted, we are aggravating the grave condition and will certainly increase the mortality rate.

Case No. 1.—A. A. D., white, male, age 42; family and previous history negative. March 15, 1915, patient was suddenly stricken with pain in the right side. This pain persisted of a severe, colicky nature until I reached him, which was three hours after the beginning of the attack. The attack was relieved by a hypodermic administration of morphine and a diagnosis of appendicitis was made. Temperature normal; pulse normal. Leucocyte count 9,000. Patient was treated with

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ice bag and high enemas for 48 hours, at which time he had a colicky attack similar to that of the first day, with elevation of temperature and symptoms of infection. He gave his consent to be operated on and under ether anesthesia a low right rectus incision was made, appendix found markedly inflamed with two stones in its lumen and heavy bands of membrane thrown up from the base of the cecum binding down the appendix. Some trauma was produced to the bowel in freeing the appendix. Otherwise the removal of the appendix was accomplished in an easy, satisfactory way. Closed without drainage. Patient recovered from the anesthetic and made an uneventful recovery until the fourth day, when he began to have abdominal distress, eructation of liquids from the mouth, absence of bowel movement, very weak, wiry pulse, and all symptoms of approaching collapse. All liquids were forbidden by mouth; high rectal enemas were administered and repeated hypodermiclisis, but patient went from bad to worse, and on the eighth day following operation mechanical ileus was diagnosed and under local anesthesia of ¼ per cent novocain solution the abdomen was reopened and there was found a contraction of the ileum for a distance of from 10 to 12 inches from ileocecal valve without any formation of adhesion producing a kinking of the gut. Finding this condition I thought best not to do enteroenterostomy. Patient was closed without any surgical procedure to the contracted gut, and for three days more this stormy condition of the patient persisted, when there began to be an escape of gas from the rectum and appearance of a colored fluid on the return of the enemas. This condition of the patient improved and on the 14th day all the symptoms of obstruction had subsided and patient made a rapid convalescence. Diagnosis, acute paralytic ileus.

Case No. 2.—Mrs. T., white, female, age 36, married. Mother of 3 children. Family history negative. Previous history, had typhoid fever at age of 19; sick 6 weeks. Present illness. Upon examination of the pelvic organs there was found mass in right iliac region size small cocoanut firmly adherent. Operation was advised and under general anesthetic of ether median incision was made, pelvic organs explored and right ovarian cyst was found and was freed of its adhesions and delivered without emptying its contents. Appendix was removed at same time. Abdomen was closed without drainage. She began to

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show some toxic condition 36 hours following operation, which was thought to be narcosis from the ether anesthesia. Stomach was emptied and washed by the use of stomach tube with soda solution, high enemas were given, all fluids restricted by mouth, hypodermoclysis given every four hours. This condition persisted for seven days which cleared up without any surgical intervention.

Diagnosis—Paralytic ileus of a reflex origin.

DISCUSSION.

Dr. W. C. Gewin, Birmingham: This is indeed a very interesting subject, and I wish to thank Dr. Donald for presenting it. In speaking of the paralytic form of the ileus, I think the main thing is diagnosis, but it must be remembered that an absolutely correct diagnosis is necessary, as it is the foundation of our future work. I agree with Dr. Donald that in the paralytic type, complete rest is usually efficacious; on the other hand, where we are sure of obstruction, an immediate operation is indicated. Of course, the viscera must be handled as delicately as possible, lest we superinduce that paralytic condition we so much dread.

Dr. W. P. McAdory, Birmingham: The hour is late, there are but few here, but the doctor read a paper on post-operative ileus. In his paper he has described intestinal obstruction. Post-operative ileus, as I understand it, is not a mechanical obstruction; it is an acute dilatation of the stomach and a paralysis of the bowels, all of which we have following abdominal operations. Now, when it comes down to post-operative ileus, as I understand it, it is an acute distention of the bowel, without the fecal vomiting and without the mechanical obstruction. If you have a mechanical obstruction from a kink or an adhesion you have got intestinal obstruction, not post-operative ileus. If you have the previous fecal vomiting you have acute dilatation of the stomach as a rule, but if that vomiting is not accompanied by a mechanical obstruction you haven't got ileus, you have got an acute dilatation of the stomach.

Of course, the great trouble that has come in the writing and discussion of this post-operative ileus and acute dilatation of the stomach and all that has come about by the mistaking of

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terms. Post-operative ileus means one thing to one man and another thing to another man, but to me post-operative ileus is where the bowels do not move, not a mechanical obstruction. Now, it just happens that whenever you have a mechanical obstruction you might just as well throw up your hands and go in there and puncture a hole in the bowel. If you have an acute dilatation of the stomach and do not wash it out and do not turn your patient out you are a criminal. But, so far as my individual feeling is concerned, the thing is for me to determine, first, whether it is a mechanical obstruction due to adhesions or kinks, or whether it is simply a paralytic affair where the bowel will not contract, or whether it is an acute dilatation of the stomach due to the sagging down, with the mesenteric vessels pressing on the duodenum and all that sort of business. That is the first thing—to make your diagnosis. If I make up my mind that it is not an acute dilatation of the stomach and what I consider a post-operative ileus, the thing is simple to me; I know how to go to work. If I make up my mind it is a mechanical obstruction, I go in there and puncture a hole in the bowel; if I make out an acute dilatation of the stomach I treat that; and it is very important for us and the people to be operated on that this be understood. You will find a great many men who do not think they have an ileus unless they have an obstruction. That is not ileus to me.

And I wish to say another thing, that the idea of the cure of suppurative peritonitis from ruptured appendix, ruptured pus tubes, perforated duodenal and gastric ulcers, is all a question of degree. What is suppurative peritonitis to one man is not suppurative peritonitis to another, and it is the same thing with this ileus. Whenever you have post-operative ileus pure and simple, not mechanical, not acute dilatation of the stomach, then morphine, rest and proctoclysis will relieve your patients in 999 cases out of a thousand. If you have a mechanical obstruction you can give all the proctoclysis in the world, you can use all the morphine manufactured and you get no relief. If you have acute dilatation of the stomach the same is true.

Now then, Dr. George Brown, of Birmingham, years ago in a paper before the Southern Surgical and Gynecological Society in Atlanta reported twelve or fifteen cases of acute peritonitis treated by the use of enemas and morphine. Dr. Murphy was present at that meeting and ridiculed him, but a few

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years afterwards advocated the Murphy drip and morphine in those cases. Dr. Brown is the man who is the pioneer in that field.

Now, whenever you have acute dilatation of the stomach, if you lose that patient it is because you do not take him in time. Remember, in conclusion, when you have a mechanical obstruction you are gone if you do not open the belly; if you have acute dilatation of the stomach if you do not wash out the stomach you are gone; when you have ileus you must give water. In the paper the doctor gave the three conditions, and you have got to make up your mind which of the three you have. I am very sorry that there is not a larger attendance, and I am sorry that in the discussion and reading of papers on this subject they don't make this distinction, because it is so important, so far as the patient is concerned. You can call it acute dilatation of the stomach, acute ileus or whatever you want.

In regard to the use of pituitrin, if you want to get any benefit from it you want to use it in double doses. I have gotten very good results from eserin salicylate in the paralytic type or the real post-operative ileus. If you wait two or three days, the patient is not vomiting, but is puffing up; they won't do a thing in the world; they won't pass a thimbleful of gas. Just simply shoot them with eserin salicylate 1/100 grain every two hours, and after a while they will begin to toot, and it's mighty pretty music.

Dr. W. R. Jackson, Mobile: I want to thank the leader for the paper. I think it is a very nice, very precise and very comprehensive paper, but I wish to say that by the term ileus custom and usage make it mean obstruction of the bowel; obstruction means to stop up. That is the common custom and usage. Now we can have the bowel obstructed several ways; we can have it mechanically obstructed and we can have it adynamically obstructed. Now, remember that there are about four things that produce adynamic obstruction of the bowels, and I defy any man in this audience to tell me the difference between adynamic obstruction and mechanical obstruction without cutting a hole in the belly. For instance, they tell you if you have a thrombosis of the mesenteric artery you cannot get the bowels open to save your life. Or if you have gangrene of a loop of the gut you have the same thing. This is virtually a mechanical

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obstruction, because you have no motion there, but in adynamic obstruction, not mechanical, the vis a tergo, the kinesis, of the gut is paralyzed. You cannot get these bowels to move, because the feces do not pass through the alimentary tract by gravity but by the vermicular action of the intestines, and you cannot get anything beyond this paralyzed gut, and very often we hame thrombosis and embolism of the superior mesenteric or branches of it that paralyzes the loop of gut. I have had this in three or four cases, opened up and found complete obstruction, nothing passing through this point. The same obtains with reference to inflammation of certain loops of the bowels. When we get inflammation of the peritoneum we have paralysis of the muscularis of the gut, and we have violent gaseous distension, we have paralysis and obstruction.

Now inflammation from peritonitis and appendicitis, thrombosis and gangrene of a loop of gut are the adynamic causes of obstruction of the bowel. This is not an intussusception, this is not a volvulus or kink, it is not mechanical, but simply a paralysis from these peculiar conditions. Very often when we do a suspension of the uterus we have a loop of gut getting in between the fixation point, and we get mechanical obstruction in that way.

As to the diagnosis, it is a very important thing to make, and we cannot always make it. If we manipulate the intestines extensively during an operation we have temporary paresis of the muscularis, but very soon nature asserts itself and we have peristalsis re-established. Now suppose we have a case coming on after an operation for inflammatory conditions. We would always suspect that there were inflammatory adhesions or paralysis of the gut from the visceral peritoneum or thrombosis going up into the mesentery or possibly a gangrenous section of a loop of gut. We would suspect that. Now as to the mechanical. Of course, we would have sudden, immediate obstruction, vomiting, first of the contents of the stomach, next of biliary matter and finally of fecal matter. Whenever we have stercoraceous vomiting we suspect a mechanical cause. When you get fecal vomiting it is time to open up, and the sooner you open up the quicker the patient will get well, but if you wait until you have obstruction from any cause, of three days' duration, your patient is going to die nearly always; no matter if

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you open up and make an artificial anus your patient will die anyway. So don't wait three days.

Dr. McAdory: Dr. Jackson emphasized more fully what I said, that the point is to make your diagnosis as to what you have got. If it is an obstruction due to a gangrenous gut it is a mechanical obstruction, and nothing in the world except to open is going to do any good. But the thing is this, that unless you have such an obstruction, why it is all foolishness to go into the gut. If you have such an obstruction go in; the whole thing is diagnosis; but my plea was this, that the profession recognize these different conditions and not call them all ileus.

Dr. Marye Y. Dabney, Birmingham: I think in justice to Dr. Donald, Dr. McAdory will have to admit that in the text-books they do class what we call obstruction as ileus, and under the term ileus they give the dynamic and the adynamic. Now, whether that is right or wrong, I am quite sure that he will find it in reputable text-books. The fact that Dr. Donald called his paper acute ileus and reported a case of obstruction is entirely within the limits of the definition of recognized text-books. If I remember rightly, it is the classification used by John B. Murphy.

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CHRONIC GONORRHOEA IN THE MALE.

J. U. Reaves, M. D., Mobile.

The successful treatment of chronic gonorrhoea depends upon whether the lesion or more often lesions are properly treated. Naturally the most essential point of treatment of this condition revolves upon the definite location of the lesion or lesions. We have several tests to aid us in locating the lesions of chronic gonorrhoea, the painstaking employment of either will give the desired information to the skillful. I now employ and prefer the one outlined by Victor Cox Pedersen, but unless the urinary tests are carried out with a close watch upon their fallacies the results obtained will misdirect the treatment and naturally both patient and doctor will be dissatisfied.

After the lesions are located, the microscopical findings will give you your pathological condition as the epithelial cells point to the infected areas and then treatment is easy, slow in some cases, but progressive at all times if properly directed. In order to keep your battery doing the proper amount and kind of work it is necessary to watch the urine with your multiple glass test, and watch the microscopical findings at frequent intervals depending upon the progress of the elimination of organisms from the field together with the symptoms present. Each case being a law unto itself, and needs to be individualized.

The history of each patient must be carefully gone into; habits, number and duration of former attacks, character of treatment employed in these attacks, onset of the present condition, urinary symptoms, location of pain, rectal symptoms, testicular symptoms, microscopical findings of meatal discharge if present, microscopical findings of washings from anterior urethra, microscopical findings of vesical urine, microscopical findings from washings of posterior urethra, microscopical findings of prostatic secretion, microscopical findings from each vesical seminalis. Care being taken that the microscopical specimen from each component comparament of the urological tract is separate and distinct and not contaminated by whatever

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secretion that might be present from some other than the specified part.

Instruments are not to be used if the meatal discharge contains gonococci. When they have been eliminated from the smear the urethroscope will show what changes exist in the glands of the urethra together with what cellular tissue is present and lesion or lesions of the posterior urethra. These can then be treated direct through the urethroscope.

Chronic gonorrhoea is always localized to one or more areas, so the matter of definite location isn't difficult. This does not hold good though in an acute exacerbation for then you may have all the symptoms of acute gonorrhoea, but a careful taking of the history and perusing the above diagnostic procedure will make the matter of locating the area or areas easy if close watch is kept on the patient's urine with some of the multiple glass tests together with microscopical findings of the different glasses. This will make treatment yield uniformly good results if you obtain the patient's coöperation.

In a series of three hundred cases of chronic gonorrhoea in private practice where at least one year had elapsed between the initial symptoms and consultation I find the following:

TABLE NUMBER ONE.

Number of Acute Attacks.

One	28 per cent.
Two	37 per cent.
Three	20 per cent.
Four	7 per cent.
Five	3 per cent.
Six to Fifteen	4 per cent.

TABLE NUMBER TWO.

Length of Time Since Onset of First Infection.

One Year	31 per cent.
Two Years	22 per cent.
Three Years	11 per cent.
Four Years	6 per cent.
Five Years	6 per cent.
Six to Nine Years	12 per cent.

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Ten to Fourteen Years	8 per cent.
Beyond Fourteen Years	4 per cent.

TABLE NUMBER THREE.

Location of Lesions.

Prostatitis	86 per cent.
Vesiculitis	3 per cent.
Cystitis (chronic)	5 per cent.
Right Epididymitis	6 per cent.
Left Epididymitis	4 per cent.
Double Epididymitis	5 per cent.
Pyelitis	1 per cent.
Stricture	11 per cent.
Peri-Urethral Abscess	3 per cent.
Cowperitis	1 per cent.
Foliculitis	18 per cent.
Blood in all glasses of Urine	4 per cent.
Arthritis	3 per cent.

In figuring my percentages I have held to round numbers for simplicity. Table number one shows that little can be hoped for which vaccine treatment of chronic gonorrhoea, and I have discarded it in every infected area except arthritis. The urethra and adnexa become tolerant to the infection and no degree of immunity is established by one or more distinct infections, or one or more acute exacerbations of a chronic infection as is clearly shown in table number two.

Table number three emphasizes the point I wish to make in this paper: a patient may have any combination of the designated areas involved, either singly in some cases or multiple in most cases, and unless each is properly located and its condition diagnosed negative or positive, no treatment is available. The condition of each area must be found out so as to know the role they have in the pathological process.

Pharmaceutical literature tends to give all the credit in these cases to their particular silver salt or other preparation rather than to accurate pathological knowledge with treatment properly applied, that is direct to the infected area according to its pathological condition. The medicine of least efficiency will produce a better result if properly applied than a medicine of higher efficiency misapplied.

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LOCAL ANESTHESIA IN MAJOR SURGERY.

HENRY BOXER, M. D., Birmingham.

Local anesthesia has been employed in surgery for centuries. The ancient Egyptians have employed various forms of local anesthesia, they applied pressure and cold and employed various drugs commonly used in those times for the relief of pain; and from that time on up to the present, various local anesthetics were employed with varied success. The discovery in the eighteenth century of drugs producing general anesthesia retarded the progress of development of local anesthesia, consequently this form of anesthesia was only used for minor surgical operations.

In the past two decades some surgeons in this country, as well as abroad have developed technics for the use of local anesthesia for almost any kind of major surgical operation, and even these improved technics were not very extensively employed on account of the toxicity of cocaine, the agent usually employed.

In the year of 1905 Einhorn introduced an absolute non-irritating, very low toxic drug, novocaine, and since that time great strides have been made in the technics of this form of anesthesia by Professors Matas, Crile, Cushing and Allen in this country, and Braun, Fischer, Barker and others abroad.

We know that the ultimate well-being of the patient depends largely upon the method of anesthesia used and that the remote dangers of some anesthetic drugs is far greater than the immediate; and that these sequelae may be more serious than we realize. As the dangers of general anesthesia in certain cases have been more appreciated, more attention has been paid to local anesthesia; so much so that if the condition of the patient is such that it would be dangerous to use a general anesthetic, under these circumstances almost any operation can be performed under local anesthesia.

According to the literature on this subject, local anesthesia may be placed under two heads: (1) Local infiltration anes-

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thesia, and (2) regional anesthesia. My personal observations and experience has been only with local infiltration, and I shall attempt to describe the general technic of infiltration. For infiltration anesthesia a 0.5 of 1 per cent novocaine solution is used and made up according to the following formula, known as Braun's formula No. 2; novocaine 0.25, normal salt solution 50.0 and adrenalin solution 1 to 1,000, 5 drops.

The solution of novocaine may be sterilized by boiling without losing its effect. The addition of adrenalin produces an ischemia, diminishes bleeding, retards absorption of the anesthetic and increases the duration of the anesthesia. The adrenalin is used in infiltration in all parts of the body, with the exception of the fingers and toes, here a constricting rubber band is used to retain the fluid in the part. As much as two ounces may be safely used for an adult, which would correspond to about 2½ grains of novocaine. Half an hour before the operation is begun, the patient is given a hypodermic injection of morphine. Two syringes with long needles should be employed and the initial injection made between the layers of the skin and forcing out the solution until a small blanched spot appears. Four or more points surrounding the area to be anesthesized are injected. These points are connected by continuous injection forming a wheal which must completely surround the operative area. Anesthesia is produced by bringing the solution in direct contact with the nerve endings. To produce a wheal, one must have a long needle and push it forward between the layers of the skin and inject the solution as the point of the needle moves forward. The next step is to anesthetize the subcutaneous tissue. This is accomplished by introducing the needle at the same points that were used in the skin anesthesia. The method of procedure is the same as with the skin injection, with the exception that the needle is placed beneath the skin. After waiting for about 3 minutes the skin and subcutaneous tissue is incised down to the next layer depending on the region and nature of the operation. The layers beneath the subcutaneous tissue are anesthesized and incised separately, waiting about two minutes between the injection and the incision. The peritoneum is also injected before it is divided. The tissues should be handled very gently. Before a blood vessel is crushed, it should be injected with novocaine, because it may cause pain. If an operation on any abdominal viscus is per-

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formed, it should also be injected with the infiltration solution, at the point where it is to be manipulated with. For example, in a herniactomy the cord should be injected before handling it, also the neck of the sack should be injected before it is ligated. In an appendectomy, the mesoappendix should be injected. After the operation is completed, the wound is closed, layer by layer, and there will be no pain if the technic has been correct.

In regional anesthesia, a smaller amount, usually about 10 to 15 c. c. of a 2 per cent solution of novocaine is used, and the injection is done directly into the nerve sheath or plexus, or immediately around the nerves, depending on the part to be operated upon. In about 15 minutes the anesthesia should be complete.

Patients operated upon under local anesthesia have a much better and more comfortable post-operative course than those operated upon under general anesthesia. As a rule there is no nausea, the patient can take and retain fluid in a few hours after the operation; they have no post-operative depression and the convalescence is smooth and rapid. Peristalsis is established early, usually from 15 to 24 hours. Some patients suffer with post-operative wound pain, but this is easily controlled with morphine or codeine.

In carrying out the local infiltration technic properly, consumes more time than the employment of a general anesthetic, but the time is well spent, when we consider the comparative safety of this method of anesthesia for patients who are otherwise bad surgical risks.

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SOME PRACTICAL POINTS ON BLOOD TRANSFUSION.

P. B. Moss, M. D., Selma.

It is not my intention to undertake a discussion of the technic of blood transfusion, as my experience with the actual operation must be much smaller than many of you have had, but I wish to speak briefly on a very important phase of the work, viz., the choosing of the donor, or more specifically, isoagglutinins and isohoemolysins.

This operation has been a recognized procedure since 1824, though it has been known since 1492, when transfusion was employed in the case of Pope Innocent VIII. However, for reasons which I shall give below it has only recently been put upon a scientific basis by the epoch-making work of W. L. Moss in 1910, and even now, too many good men are disregarding these principles and going ahead in a more or less slip-shod manner and obtaining uncertain results.

As illustrating the disrepute into which the procedure had fallen, as late as 1907 De Costa wrote: "At the present day a saline fluid is infused in preference to transfusing blood. In fact, the operation of transfusion has become all but extinct. It exposes the patient to the danger of embolism and infection, its employment requires material and instruments often difficult to obtain in an emergency, and it has no single element of value beyond that secured by the use of salt solution, except in gas poisoning."

The indirect methods of recent years have served to revive the operation, and in the hands of men who are careful to select a suitable donor, the results should be most valuable in many conditions. Without such careful selection of donor we shall continue to hear men say that after doing transfusions on a large number of cases, they have concluded that very few cases are benefited by the operation.

It has long been known that the serum of many animals naturally possesses the power of agglutinating and dissolving the corpuscles of animals of a different species; the substances in the serum of these animals which causes these effects are

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known respectively as agglutinins and hemolysins. By isohemolysins and isoagglutinins we mean that variety which is effective against the red blood cells of another animal of the same species.

Of the nature of isoagglutinins and isohemolysins, W. L. Moss says:

"Isoagglutinin is thermostable, that is it resists heating to 55° C. for 30 minutes. Isohemolysin consists of two components, one thermostable, resisting heating to 55° C. for 30 minutes (amboceptator), the other thermolabile, destroyed by heating to 55° C. for 30 minutes (complement) * * *

"The origin of isoagglutinin and isohemolysin has not yet been satisfactorily determined.

"It has been shown that all adult human beings can be divided into four distinct groups in regard to the ability of their red blood corpuscles to be agglutinated by other human sera or their sera to agglutinate other human red cells, it being generally considered that there is no auto-agglutination. Thus, if two individuals belong to the same group, neither will agglutinate or hemolyze each other's red cells. * * * The group to which an individual belongs is an inherited characteristic which follows Mendel's law; an individual always remaining in the same group regardless of disease."

A strict classification of individuals according to the isohemolytic action of the blood has not been accomplished, but Moss has shown that while isoagglutination frequently occurs without isohemolysis,—isohemolysis is always associated with isoagglutination or preceded by it. Therefore, if one tests a serum or a plasma for its ability to agglutinize red cells and it does so, it may or may not hemolyze them, but if there is no agglutination there will be no hemolysis.

Moss characterizes and numbers the isoagglutinin groups in man as follows:

Group I (10 per cent)—Serum agglutinates no corpuscles. Corpuscles agglutinated by Groups II, III, IV.

Group II (40 per cent)—Serum agglutinates corpuscles of Groups I, and III. Corpuscles agglutinated by sera of Groups III and IV.

Group III (7 per cent)—Serum agglutinates corpuscles of Groups I and II. Corpuscles agglutinated by sera of Groups II and IV.

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Group IV (43 per cent)—Serum agglutinates corpuscles of Groups I, II and III. Corpuscles agglutinated by no sera.

About 83 per cent of all individuals belong to Groups II and IV.

The most usual method of testing donors for transfusion is to test the patient's serum or plasma against the donor's cells and *vice versa*. But as Minot says:

"The fact that all adult individuals belong to one of four possible groups so far as their agglutinins and hemolysins are concerned, is of practical importance because one may determine the group to which a patient belongs, and then use as a donor one belonging to the same group as the patient. This enables one to test at different times and places donors and recipients without having to test directly the patient's blood against each prospective donor. For example at the Massachusetts General Hospital we have determined the group to which a series of individuals belong who are willing to act as donors.

When one wishes to transfuse a patient, his group is determined and a donor belonging to the same group is summoned and the transfusion may then be done without further tests and without fear of any agglutinative or hemolytic reaction taking place in the patient. Likewise, as soon as the patient enters the hospital his group is determined if it is likely that he will be recommended for transfusion. Later the groups to which his friends belong are determined if their general condition is such that they are suitable for donors. Then a friend belonging to the same group as the patient is used as a donor."

In children it is frequently necessary to test the blood directly against the donor's, as the group characteristics of the blood are not always established in children.

Cherry and Langrock found that no hemolysis or agglutination occurred in tests of the blood of mothers with their babies, and state that if there is no contra-indication the mother is an excellent donor for her children in emergency cases where blood tests cannot be made.

Soresi says also that in emergency cases where a hemolytic test cannot be made a donor who is a close relative, "especially on the maternal side," should be chosen.

The general conclusions in regard to the relation of isoagglutinins and isohemolysins to blood transfusions are summarized by Minot as follows:

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"A donor for transfusion of blood should be not only healthy, but should belong to the same agglutination group as the recipient. * * *

"Even when donor and patient belong to the same isoagglutination group, there may occur, however, after transfusion, reaction of an unknown nature, which are probably of not so severe or serious a nature as hemolysis."

Now, a word as to the method of determining whether a certain blood is suitable for transfusion to a patient: Serum from the patient and donor are collected in ordinary Widal tubes and a suspension of corpuscles from each person is made by allowing one large drop of blood to fall into one c. c. of normal salt solution in a small test tube. One drop of the serum from each person is then mixed on a cover glass with two drops of the corpuscle suspension and examined as a hanging drop under the microscope. Agglutination will usually occur in a few minutes, but it has been found best to watch the preparation one hour before considering it negative.

Dr. Walter V. Brem and others have devised a very convenient method of classifying blood by comparing the unknown blood with one known to belong to either Group II or III, and it is reported in the Journal of the A. M. A., for July 15, 1916.

My personal work is too small to be of any statistical value, but it is sufficient to point out the facts that the biggest institutions of the East and North have adopted this method as a routine before all transfusions, and only in the most compelling emergency will they do a transfusion without determining whether the donor is suitable.

Dr. Brem, mentioned above, gives some statistics on 191 transfusions done by him. In twelve of these cases, for different reasons, "incompatible bloods" were used; in those cases when the patient's serum was not agglutinative for the donor's corpuscles, but the donor's serum was agglutinative for the patient's corpuscles, the reaction was not severe, but in those cases where the reverse held true, the reaction was very severe. When these severe reactions occur, they may usually be expected after only a very small amount of blood has been injected such as 10 to 50 c. c., so in cases when the blood has not been tested, it would be well to proceed very slowly at first and thus avoid fatal results.

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CASE OF FOOD ALLERGY.

W. W. HARPER, M. D., Selma.

I want to show you an interesting case of food poisoning and at the same time demonstrate a simple test for protein sensitization. I think we should be very proud of the fact that this test was originated by an Alabama doctor, Dr. Schloss, formerly of Eufaula, now living in New York City.

This is a baby of eighteen months, born of normal parents. A year ago this child had a violent attack of bronchial asthma, —the angio-neurotic-edema type. I thought the child would die. We worked with it all day,—giving it large doses of atropine, before it revived. A week later the attack was repeated. After the first attack a blood examination failed to show an eosinophilia—which is present in true bronchial asthma. Two weeks later the baby had a third violent attack of asthma. The blood examination at that time showed an increase of eosinophiles and a diagnosis of true bronchial asthma was made. The baby was then brought into the hospital and the Schloss test made. The reaction was to cow's milk. Upon inquiry it was found that if milk was poured from one vessel to another in the baby's presence he developed an attack of asthma. The baby was given a teaspoonful of cow's milk and a short time afterward had a violent attack of asthma. It was now determined to desensitize the baby; two drops of sterile cow's milk was given under the skin. In five minutes the baby was unconscious, cold, clammy and appeared as if dead. He was revived by a hypodermic of atropine—1/200 grain. The immunity is gained by the same principle that is used in the Pasteur treatment of hydrophobia. Give one drop of milk by hypodermic every three or four days until no reaction occurs; then increase a drop each time that no reaction follows the previous dose. When fifteen drops has been reached, repeat this amount every four or five days and then the milk may be given by mouth. When a teaspoonful can be given by mouth without reaction, then the baby is immunized. The Arlington Chemical Co., of

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Yonkers, N. Y., put up a protein tablet to be used in the Schloss test.

In this connection there comes to mind a very interesting case of this kind. About two years ago a child of very rich people was carried to Boston for relief of asthma. The child had been taken to many doctors—all over the United States—but nothing had relieved him. The Boston doctors tried the Schloss test,—using a number of proteins,—but none gave a reaction. A medical student suggested that they try dog meat,—and the doctors ridiculed the idea, but the student was so persistent that they permitted him to try it. The baby gave a prompt reaction. On investigation, it was found that every time the baby played with a dog, he had an attack of asthma. After this the parents kept the baby away from dogs and he had no more asthma.

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ON THE SURGERY OF BONES AND JOINTS.

MARCUS SKINNER, M. D., Selma.

When the kind invitation to address the State society was extended me by the President, I sent him as my subject, "The Surgery of Bones and Joints." Since then learning that the time of each speaker is limited to fifteen minutes, it has occurred to me that a full consideration of such a large subject is impossible. Therefore, I think perhaps it would be well to say a few words about principles that govern certain bone conditions, present two technical procedures that I think are new, and discuss some interesting cases of which I have had lantern slides made.

Bone surgery has been practiced for a long time, yet it has made more progress in the last ten years than perhaps any field in surgery, and the renaissance has been due to a better appreciation of the possibilties of osteoplastic methods; together with an improved technic and the healthy scientific curiosity that impels surgeons to leave conquered ground and explore the new.

The surgery of the biliary apparatus, stomach, and female generative organs has been more or less standardized, and any competent surgeon not only understands the possibilities and limitations of abdominal surgery but is able to perform most of the operations in this field with a satisfactory mortality rate.

Unfortunately, this has not been true of the surgery of bones and joints, and even now in large text-books, we find no detailed consideration of such important subjects as the mechanical derangement of joints, the indications for, and the technic of operations for rheumatoid arthritis, for malunited fractures and for the deformities that so often follow poliomyelitis and the septic arthritides. Perhaps it may be stated that the pathology and structural deformity resulting from unsuccessful reduction of fractures, poliomyelitis and arthritic disease is not constant and specific enough to warrant division into types and the description of manipulative or operative procedures that

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can be relied on to give fairly constant results. Or in other words, it may be contended that alterations in alignment following such conditions, follow no definite course and that in each individual case the surgeon must devise his operative procedure from his own storehouse of ingenuity. This view I want to deny, and to state that the converse is true. There is one clinic in the world where standardization is more or less complete, that of Mr. Robert Jones, of Liverpool.

Every fracture and every arthritis is a potential deformity, and such conditions progress steadily towards their specific deformity in the absence of efficient treatment. An inflamed elbow will take the position of flexion at a point beyond a right angle; a shoulder assumes a position of adduction and slight forward flexion; a hip can always be depended on to show flexion and adduction; the knee, flexion; the ankle extension; the great toe, flexion; and the wrist, ventral flexion. Unfortunately, these positions assumed by inflamed joints are with the exception of the elbow, quite detrimental to repair of the joint, and if in the event of ankylosis, leaves the joint in a position that affords a minimum of function. Therefore, the prime consideration in the treatment of arthritis of whatever nature, is to aid nature and guard against such deformity by proper splinting.

Specifically, the adducted and flexed hip should be fixed in a position of slight abduction and the flexion overcome; the flexed knee should be straightened to full extension; the extended ankle should be dorsiflexed, and the flexed wrist must be hyperextended. In the case of the hip and knee, such fixation should be combined with traction, but really traction is of less value than the position per se. The particular apparatus by which these positions are maintained are not of great importance, but I personally prefer the Jones' abduction splint for hips, the Thomas knee splint for knees, and an angular metal splint to maintain a dorsiflexed wrist. However, plaster of paris can be made to fulfill all indications.

To illustrate, I will mention the case of a lady forty years of age that recently came under our care: She had suffered for two years from a low grade multiple arthritis of the rheumatoid type, which had resulted in a right angled contracture of both knees, attended by considerable thickening of both joints. One of the knees allowed about ten degrees of flexion from the right

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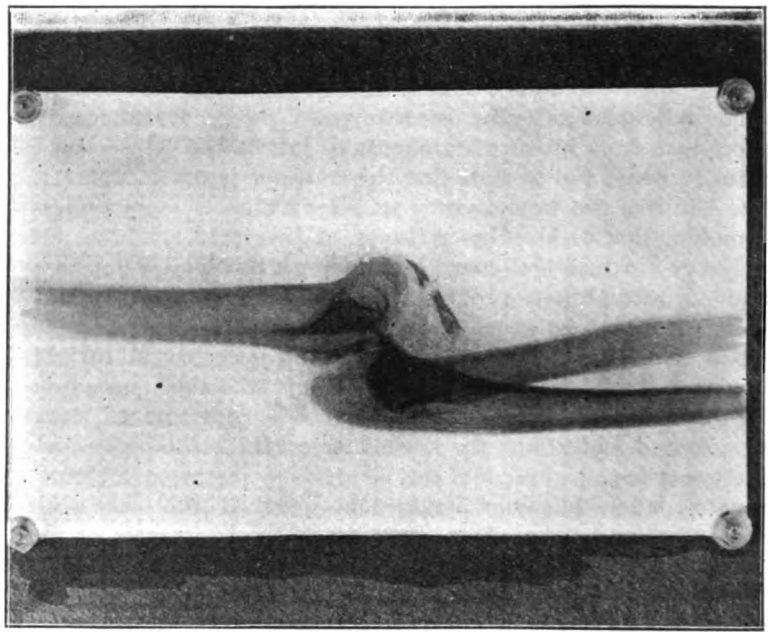
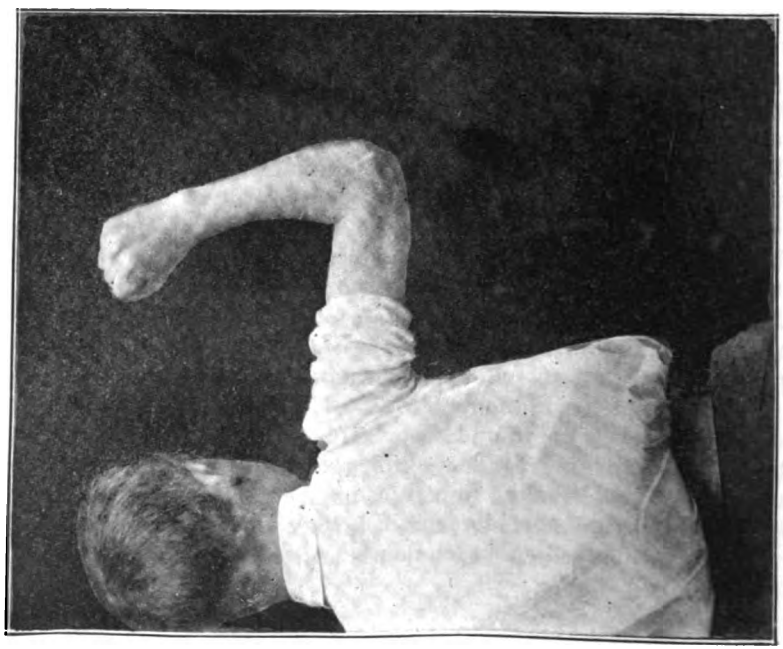


CASE 1, FIG. 2.



CASE 1, FIG. 1.

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angled position, while the other allowed perhaps twenty degrees. Now, a person that is unable to extend knees beyond a right angle cannot walk at all, so when this patient was first seen by us, she was bed-ridden, not because of pain, but because of this mechanical disability. For seventy days she had been kept in a private sanatorium under the care of two excellent physicians, who had made every scientific effort to find the original focus of the metastatic infection. Numerous skiagrams were made, several suspicious teeth extracted, excellent dietetic measures were instituted and free use was made of electro-therapeutics. However, the patient did not improve, she was unable to walk, and her depression was extreme.

Examination of these knees show that limitation of movement was due to adhesions, so the patient was given an anesthetic, both knees forcibly flexed, extended and put up in plaster in the fully extended position. When the plaster was removed at the end of three weeks one joint showed about forty degrees of voluntary flexion and the other about twenty-five degrees. With this amount of mobility from the extended position, the patient cannot only stand upright, but can walk with only a very slight limp noticeable. In ordinary walking, we seldom use over thirty degrees of flexion. We also made a careful search for the original focus, but were unable to find it. This case is mentioned not in a spirit of criticism, but to emphasize the importance of fixation of joints in the position that assures the greatest chance for a good function.

After a joint has been the seat of an arthritis and some of its mobility lost because of adhesions, it is an important desideratum to know how to improve motion. We have resort to active and passive motion and massage. It is a fact that some practitioners seem to think that the indications for active and passive motion are the same, and this leads to the employment of passive motion when it does positive harm. Active or voluntary motion should be practiced by the patient after subsidence of the acute stage or arthritis, and considerable patience should be exercised by the doctor in awaiting the return of full movement. Usually by this active motion mobility is restored in the quickest possible time. Passive motion should be reserved for a time (weeks or months later) when all possible movement has been obtained by active motion. Therefore, we may say that forcible passive movement should only be employed to break

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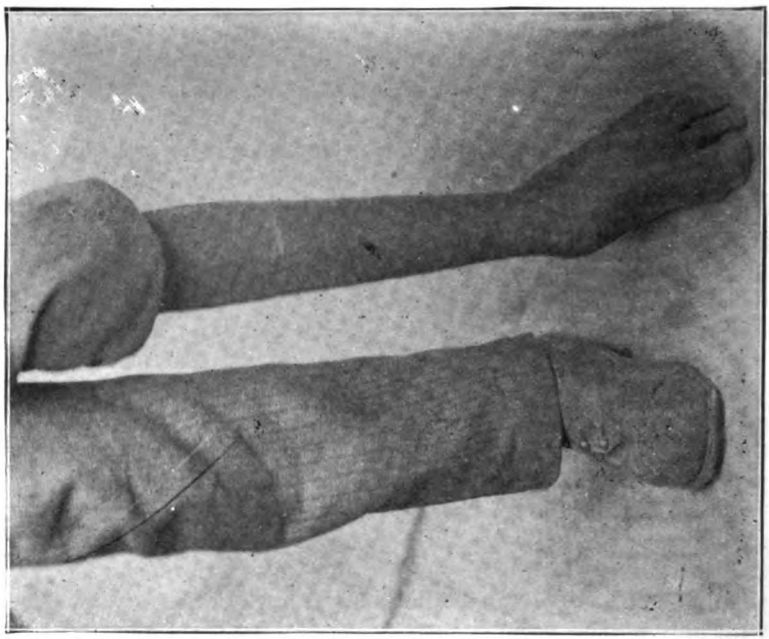

CASE 2, FIG. 4.

CASE 1, FIG. 3.

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down the last few stubborn adhesions, and should always be followed by absolute rest of the joint for several days. If we use forcible passive motion when slight mobility is first established, a traumatic arthritis invariably results with loss of movement. This principle is well illustrated in after-treatment of a supercondylar fracture of the elbow that has been treated in the acutely flexed position. If we attempt to put such an elbow after a few weeks immobilization through half its normal range of movement, in twelve hours the joint will be red, somewhat swollen and stiff. On the other hand if after ten days immobilization in the acutely flexed position, we allow slight active motion gradually increased, we find at the end of six weeks an elbow that goes through its normal range of movement without any pain.

OLD DISLOCATIONS OF THE ELBOW.

The successful treatment of this condition seems to me to be one of the most difficult things in surgery. The late Dr. John B. Murphy has said that the proper performance of his operation of arthroplasty of the knee made the re-section of the Gasserian ganglion look like vacation exercise. Difficult as arthorplasty of the knee may be, I think the management of an old dislocated elbow is equally so. Those of you that have operated on elbows that have been dislocated from four months to two years know that the chief difficulties are avoidance of the ulnar nerve and in the obtainment of a field that allows accurate manipulation and replacement of the joint with no injury to the coronoid and olecranon process of the ulna.

The choice of skin incision is rather important as the successive steps depend on what method of approach has been used. The classic incisions are those of Von Eiselsberg, Schlange and the two lateral incisions of J. B. Murphy. The incision of Von Eiselsberg, four inches in length, drops from a point just behind the external condyle down to a level with the radial neck. The objection to this incision is that it does not sufficiently expose the olecranon fossa, and if it is found necessary to improvise a fascial flap to cover a raw area of bone, it affords no soft tissue from which a flap may be made.

Schlange operates through a more or less inverted horseshoe shape incision. After making this incision he divides the ulna with a saw and then reflects the large flap containing the

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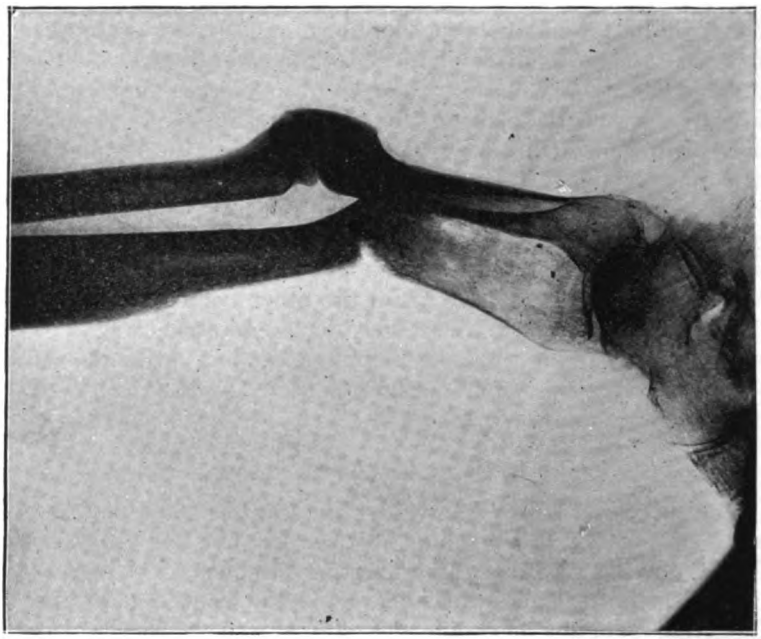
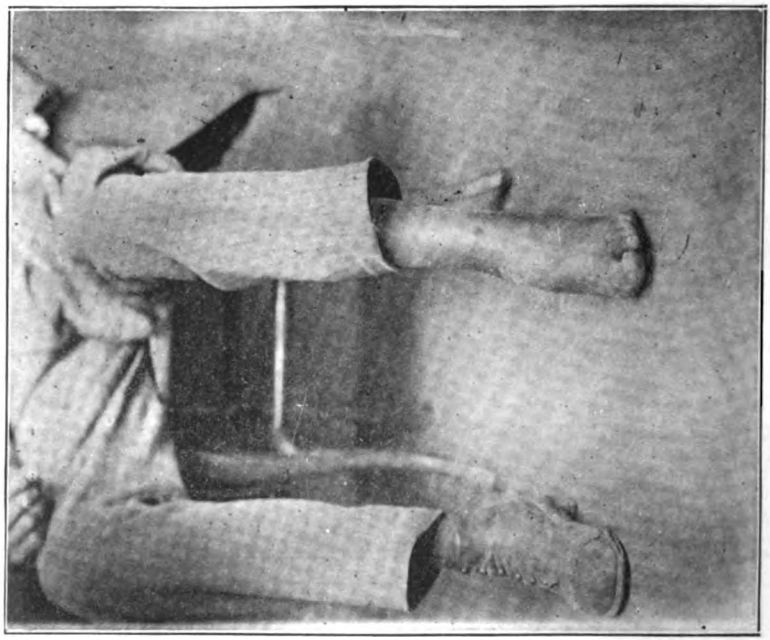


CASE 3, FIG. 6.



CASE 2, FIG. 5.

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olecranon upward. This incision gives ample exposure, but requires that the olecranon be nailed to the ulna when the operation is completed; and following the tremendous effusion that occurs in these cases, the pedunculated skin flap may necrose. The two lateral incisions of Murphy are objectionable because the ulna nerve must be isolated and during such dissection and manipulation, and later by scar formation the nerve may be severely injured.

The simple operation that I submit seems to me to have obviated these disadvantages. The incision, slightly S-shaped, starts about three-quarters of an inch above the tip of the olecranon at a point midway between the olecranon and the humerus, passes downward and forward to a point in front of the radial head and then downward to a point just below the radial neck. Through this skin incision the joint capsule and fibrous tissue is then freely incised with a knife and the tissues dissected back from around the head and neck of the radius. The neck of the radius is then divided by bone-cutting forceps and the head and neck removed. After removal of the radial head, the field of operation is much enlarged and ready access may be had to the olecranon fossa and the articular surface of the humerus. This fibrous tissue is then carefully excised and the joint reduced. The operator should not be content until the joint goes through its full range of movement. If the tip of the coronoid or other bony projection is broken, it should be removed and the raw area of bone covered by a soft tissue flap, which can easily be obtained from the tissue which formerly surrounded the radial head. The elbow should then be flexed to a point about sixty degrees from the straight, the forearm fully pronated and while in this position the capsule, soft parts and skin should be sutured, using interrupted sutures for all three layers. By means of the automatic needle of Reverdin and a trained assistant all the deep sutures may be placed and tied without ever touching the catgut with the gloved hand. After the skin closure voluminous dressings should be applied and the tourniquet removed. The elbow, arm and forearm should then be encased in a light plaster, and a large fenestration made over the posterior surface of the elbow.

At the end of two or three days an inspection of the wound should be made and it will be found that there will have been

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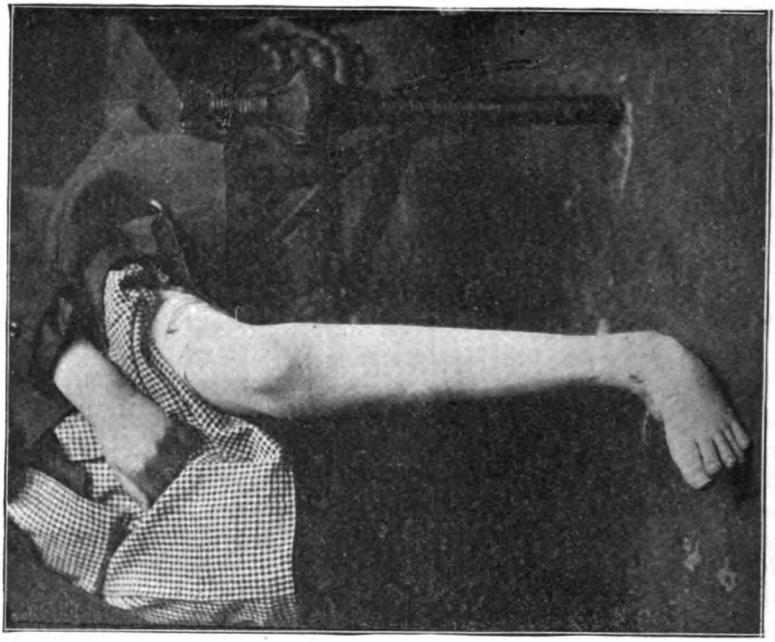
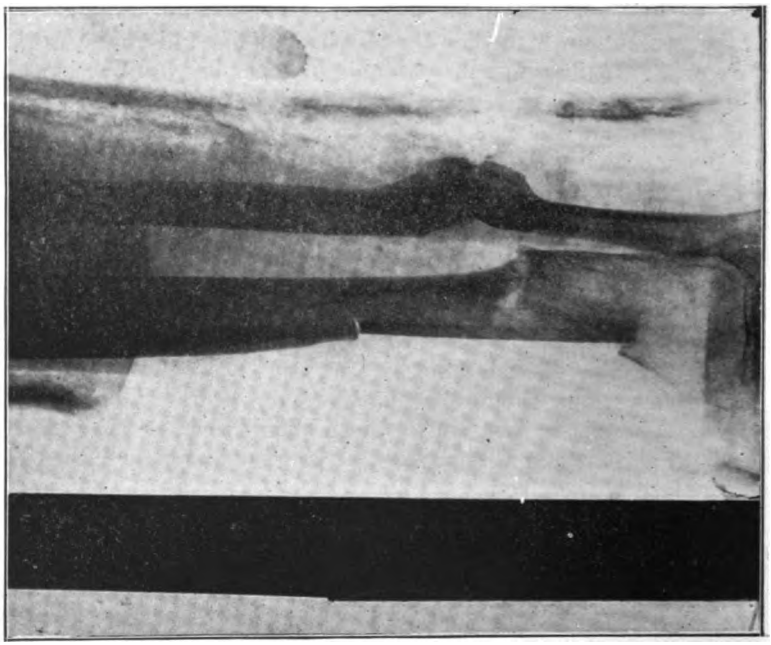


CASE 4, FIG. 8.



CASE 3, FIG. 7.

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much serous discharge and a rather tense appearance of the joint. Contrary to the usual advice, I prefer not to aspirate, but await the spontaneous evacuation into the sterile dressings.

There are those that advise the beginning of movements at the end of three days, but it would appear to be sound surgery to wait until there is skin union and the sutures have been removed. At the end of eight or nine days the plaster should be removed and the patient encouraged to actively move the joint. If full movement has not returned in two months forcible passive motion under an asethetic should be done.

By means of this incision and the preliminary excision of the radial head arthroplasty for bony ankylosis is more easily performed, and on several occasions I have done this operation with satisfactory results. A patient does not miss the head of the radius so far as function is concerned and there is only a slight depression left at the old site of the radial head.

The following cases are discussed because they illustrate certain types of operative manipulative procedure that appear to be of particular interest. Omission will be made of all history that is not pertinent to the condition:

Case 1.—A twelve-year-old boy was brought to me with a dislocated elbow of four months' standing. The elbow was fully extended and the patient had lost power of grasp and ability to write. Figure 1 is a skiagram of this boy's elbow. You will notice some myositis ossificans has already appeared in front of the joint. The operation which I have described in this article was done. Figure 2 shows the degree of flexion possible at the end of six weeks, and Figure 3 the degree of extension possible. The joint has remained absolutely free from pain, the fine movement of the fingers has returned, and the boy is now enabled to play baseball.

Case 2.—This negro man sustained a Pott's fracture four months before he was admitted to the hospital for operation. The treatment instituted at the time of the original injury was inefficient and when seen by us he presented a typical deformity of a malunited Pott's fracture. Under a tourniquet a transverse incision three inches long was made just above the internal malleolus and the periosteum divided and pushed back with an elevator. A wedge-shaped piece of bone with its base towards the skin was removed. In this wedge the whole thickness of the tibia is found with the exception of the inner cortex.

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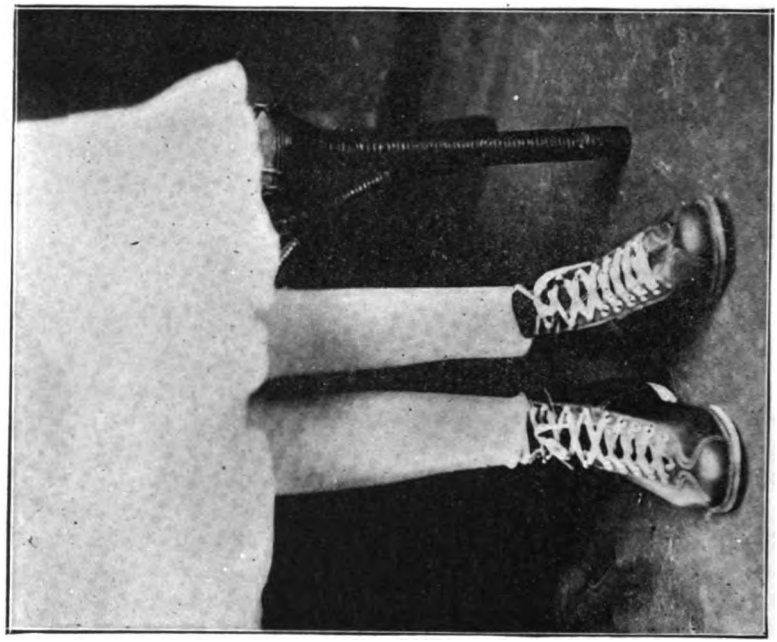
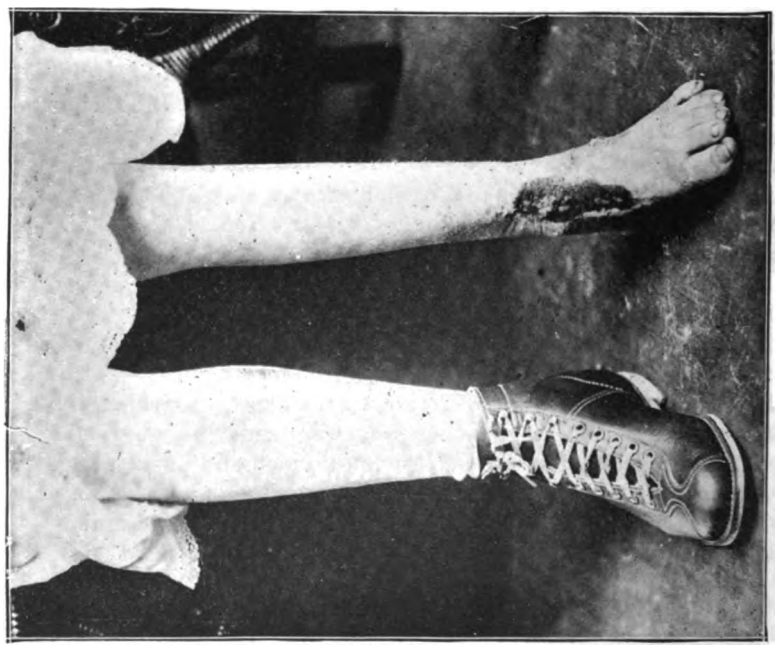


CASE 4, FIG. 10.



CASE 4, FIG. 9.

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A longitudinal incision was then made four inches in length just above the external malleolus. Through this incision the peroneal nerve was exposed, retracted to the side and the fibula divided with a chisel. This part of the operation is often done without making a long incision, but in certain cases in which the peroneal is adhered to the fibula, there is great danger of injuring this nerve. The foot is then forcibly inverted and the soft tissues and skin closed by interrupted sutures. By this inversion the alignment is rectified. The wound is then dressed and a light plaster applied before the tourniquet is removed. (Figures 4 and 5.)

Case 3.—The skiagram of the leg of a young man of twenty-eight. He had originally sustained a compound fracture of both tibia and fibula and at the end of two and a half years there was no union. During this time he had three operations; the purposes of which were the removal of suspected neurotic bone, which had thought to cause a recurrence of septic trouble from time to time. When examined by us, he presented a posterior convexity of his limb at the side of fracture, a granulating area at the same site, and, which was of great importance, arterio-schlerosis of a marked degree. From this we felt sure that the condition had a leutic basis and a Wasserman was done, which proved to be positive. One dose of salvarsan caused a disappearance of the exuberant granulations. Three weeks after the injection, the diseased skin was excised and an inlay bone graft done. Figures 6 and 7 show the condition before operation and three weeks later. Inlay bone grafts are so common that one such case does not warrant any great consideration, but the fact that this man had passed through the hands of one of our best Southern and Eastern surgeons and no Wasserman had been done makes it quite evident that every case of un-united fracture should be considered worthy of a blood examination for lues.

Case 4.—A girl of thirteen years of age that had had infantile paralysis seven years before. When examined she showed only one working muscle in the front part of the foot, the tibialis anticus. The seral muscles were good, but the tendo achillis was contracted. Figure 8 shows the foot before operation. Figures 9 and 10 show the condition before operation and six weeks later. The operation done was transplantation of the tibialis anticus from the scaphoid into the cuboid. This trans-

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CASE 5, FIG. 13.

CASE 5, FIG. 12.

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plantation was done after a preliminary division of the plantar facia, division of the tendo achillis and redressment with the wrench. Tendon transplantation in the foot without preliminary overcorrection by manipulation is an unsuccessful procedure.

Case 5.—A lady of fifty presented a claw-hand following severe cellulitis several months before. During the course of infection, a dozen incisions had been made to combat the severe infection. The fingers were flexed, the metacarpi-phalangeal articulation presented flexion and stiffness and the same condition obtained in the wrist joint. The condition with which we had to deal presented for practical purposes the same pathology that we see in the ischaemic paralysis of Volkman. The manipulative procedure devised by Mr. Robert Jones was used. By this procedure contractures of the forearm and hand are treated with infinitely better results than can be obtained by open operation. Under gas the fingers were first straightened and immobilized with small metal splints. Three or four days later the metacarpi-phalangeal articulations were extended and immobilized in the same plane as the extended fingers, a metal splint being used. Four or five days later the wrist was extended and immobilized in the straight position and still later hyperextended. The photograph of this hand was unsuccessful, but the condition is readily understood from the above description. Figures 11, 12, and 13 show successive stages of treatment and the results obtained at the end of six weeks.

Case 6.—A lady of fifty years of age. She presented herself for the treatment of a condition she called rheumatism. Twenty years before, while indulging in a game, she injured her knee. At that time she was laid up for two weeks, but her knee apparently recovered. At intervals since that time the knee has "given away." At these times something seems to slip in the knee and she is unable to fully extend it for several minutes, and following such attacks, the knee is sore and painful for several days. During the last six months the knee has been tender, becomes painful after much walking and she has noticed some thickening on both sides of the patella. Examination revealed the thickened knee of rheumatoid arthritis, and the creptitus of a loose cartilage. Diagnosis was made of an old dislocation of the external semilunar cartilage and a secondary traumatic rheumatoid arthritis. The knee was operated on

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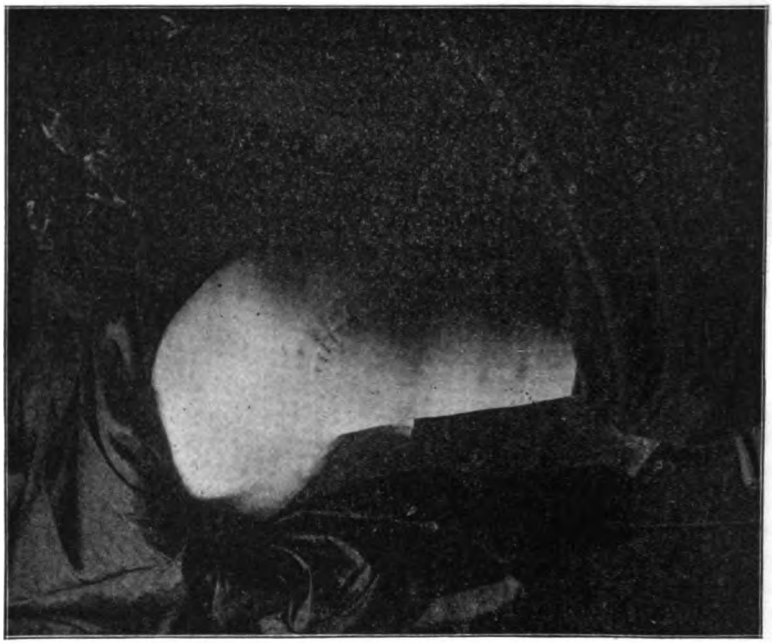

CASE 6, FIG. 15.

CASE 6, FIG. 14.

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while in the Jones' position and the external semilunar removed together with a thickened post-patellar pad. Figures 14 and 15 show the degree of movement sixteen days later. Since the operation she has had no mechanical derangement and the knee has remained free from pain.

Case 7.—This boy appeared for treatment for a condition that had first been noticed fifteen years before. He was twenty-four years of age, and stated that the condition had been gradual in its onset and that the difficulty that he now experienced in walking, together with much pain, had practically made work impossible. Figure 16 shows the condition before operation. There is a rigid claw-foot, the plantar fascia being much contracted, together with all the extensors of the toes with the exception of the great toe, which showed plantar contraction. The knee jerks were much exaggerated, and when the patient attempted to walk he showed a suggestion of spasticity. At the time of operation the plantar fascia was divided, the extensors of the toes of both feet were divided and both feet overcorrected by means of the Jones-Thomas wrench. You will notice that no cutting operation was done. In the absence of this wrench, this condition is impossible to cure an open operation without such forcible redressment is futile. Figure 17 shows both feet six weeks after operation.

Case 8.—A young man of twenty-four years of age presented a knee that had been treated for three years. The knee was very much swollen, most of the swelling being above the patella. There was a large amount of fluid in the joint and signs of a large sac behind the quadriceps tendon which communicated through the upper part of the capsule with the cavity of the knee joint. Motion was good, and, on moving the knee, much soft crepitus was elicited and soft masses of tissue could be palpated. The diagnosis of hypertrophic rheumatoid arthritis of the villous type was made and open operation done. Figure 18 shows the knee before operation and Figure 19 after. At the time of operation, the knee cavity was freely exposed through a seven-inch incision on the inner side of the joint. When such exploration is desired Mr. Robert Jones often makes a longitudinal section of the patella, which affords admirable exposure of the joint. However, when the knee has contained much fluid for a long time the capsule is often so stretched that a longitudinal incision to the inner side of the

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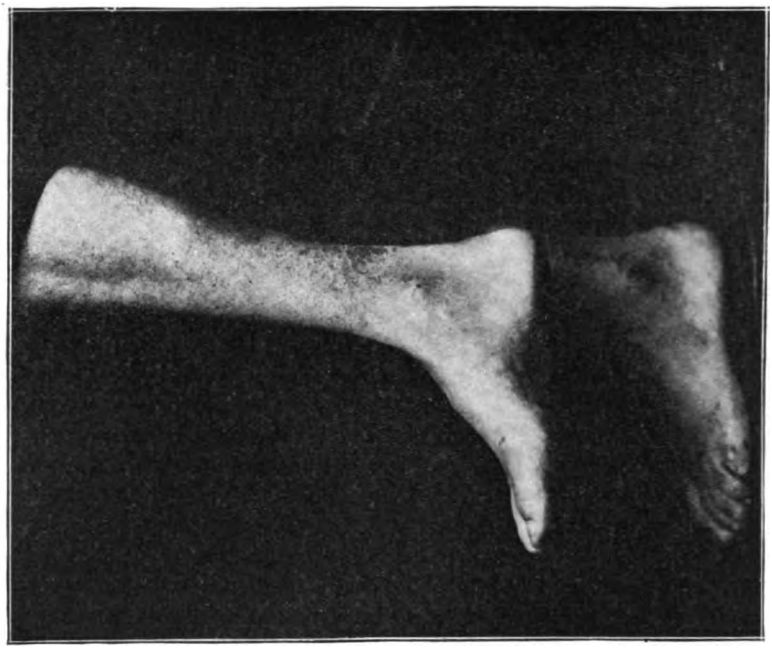
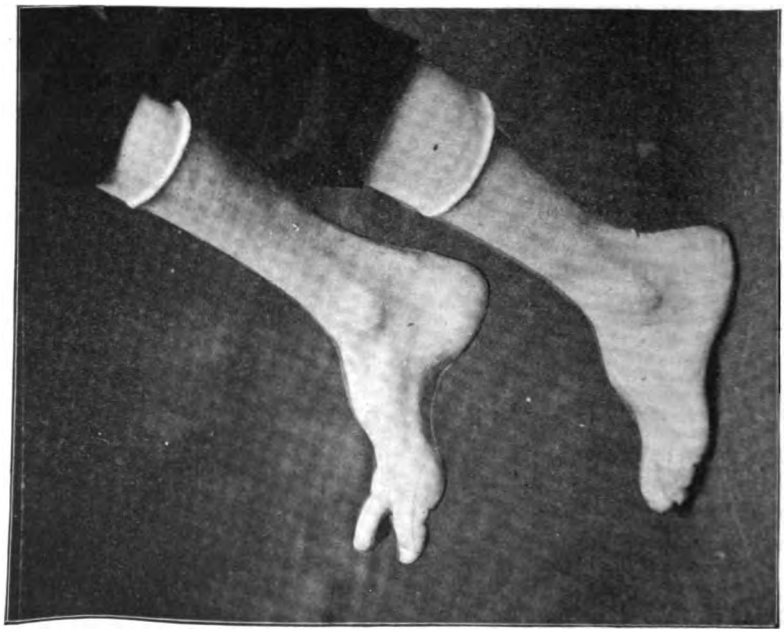


CASE 7, FIG. 17.



CASE 7, FIG. 16.

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patella will afford all the room necessary. In this case the knee joint was filled with villous masses and a few rice bodies, and a channel existed between the knee joint and a big sac behind the quadriceps. All the abnormal structure was removed, and the sac behind the quadriceps obliterated by deep sutures. Figure 19 shows the degree of flexion possible at the end of four weeks at which time he was walking.

Figure 20 represents the author's incision for performing arthroplasty and for dealing with dislocated elbow.

Figure 21 represents the section of the radical head.

Figure 22 represents the typical deformity shown by Pott's fracture, such as case 2.

Figure 23 illustrates the line of section of tibia and fibula.

Figure 24 shows Mr. Robert Jones' position for operating for mechanical derangements of the knee. The knee has been sterilized with iodine, a piece of sterile stocking applied tightly to the knee and moistened with solution of bin-iodide of mercury. The incision is made through this stocking, while the limb is allowed to hang over the table at right angles.

Figure 25 illustrates the two incisions employed for removing the external or the internal cartilage.

Figure 26 illustrates the author's method of using stocking in operations on foot.

Figures 27 and 28 show Mr. Robert Jones' method of dealing with Colles' fracture. This method of manipulation is very simple and all recent cases can be reduced in a very short time by this method. Old malunited fractures of this type can often be reduced by this manipulation, when without it, there is no recourse except to operative reposition. When these old cases cannot be reduced manually, recourse is had to the Thomas-Jones wrench; the method of application being shown in Figure 29. The proper use of this wrench invariably gives better results than open operation.

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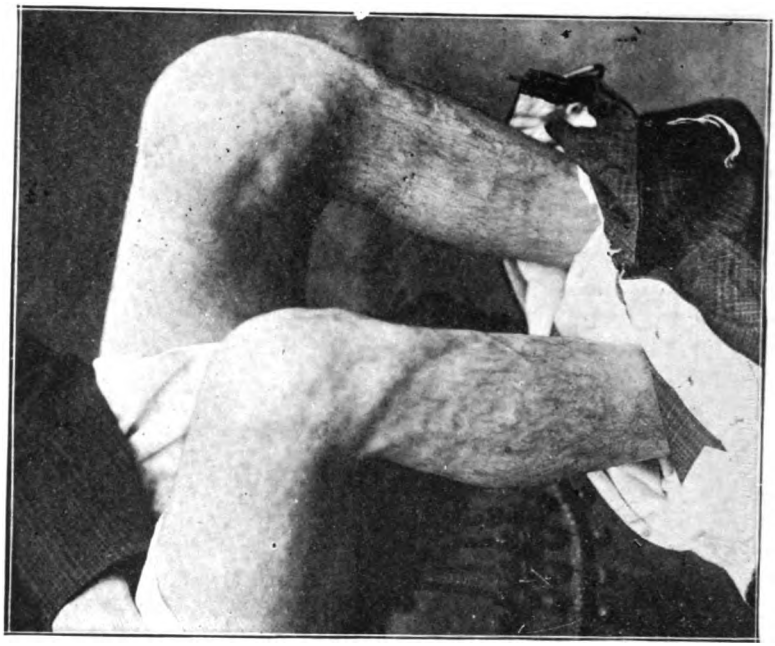
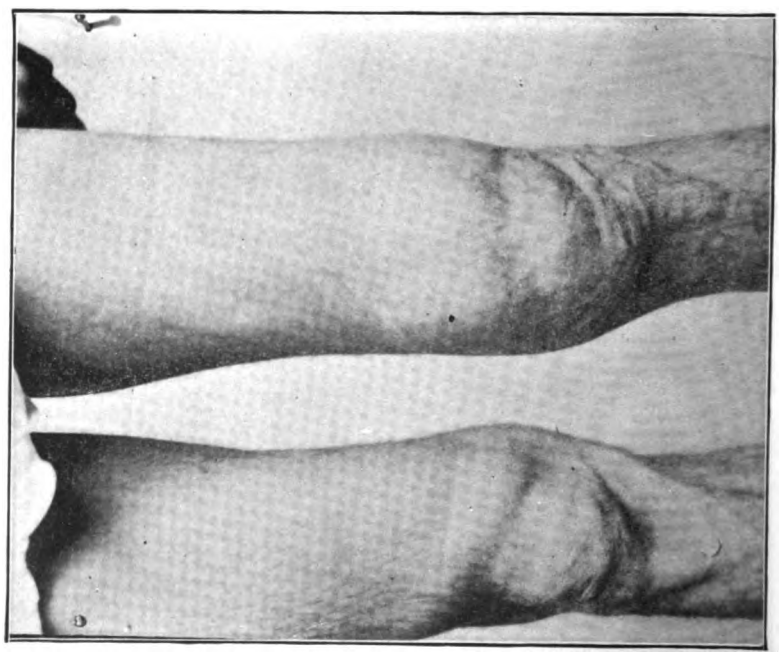


CASE 8, FIG. 19.



CASE 8, FIG. 18.

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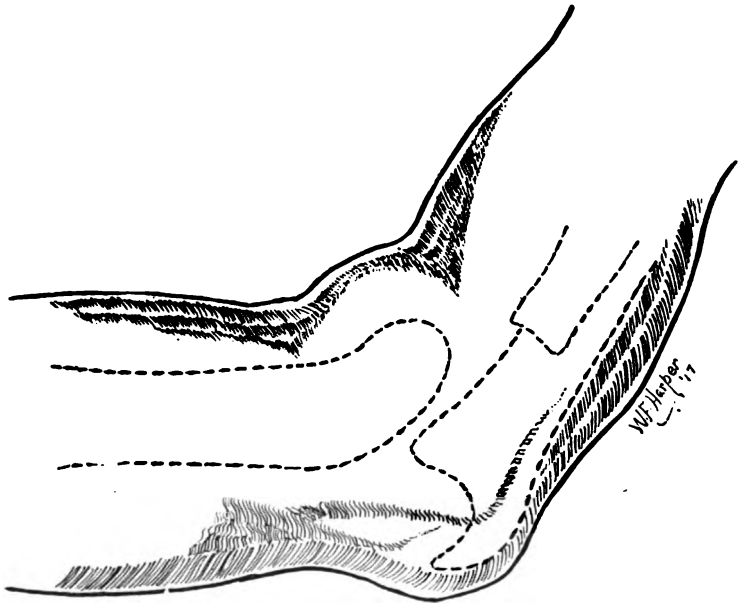

Fig. 21.

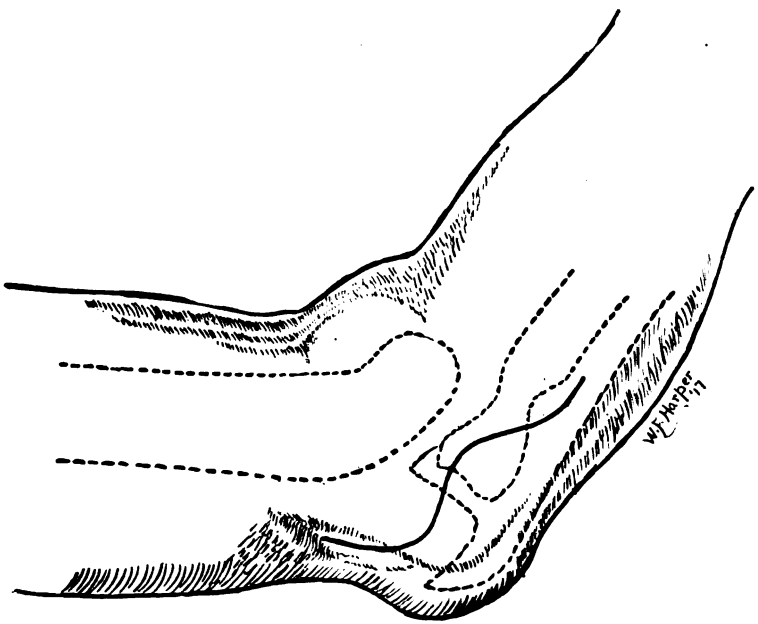

Fig. 20.

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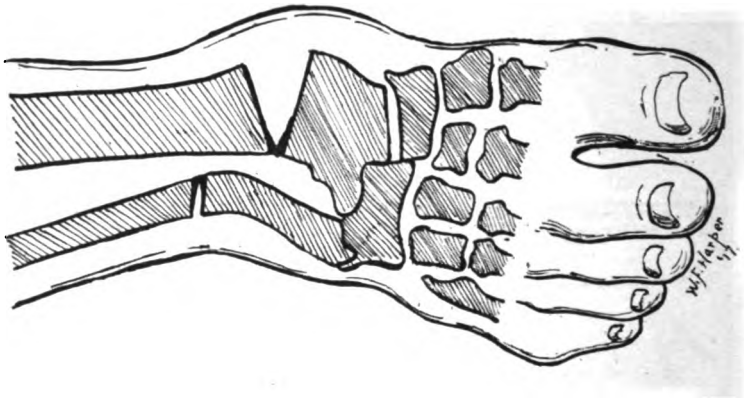

FIG. 23.

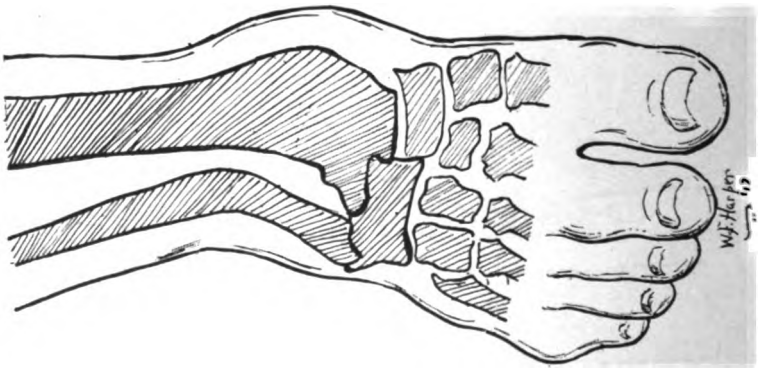

FIG. 22.

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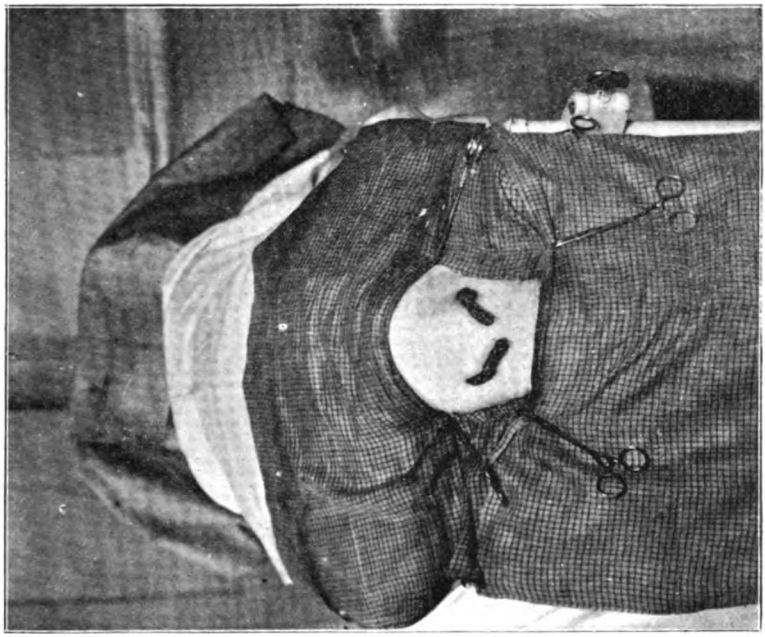

FIG. 25.

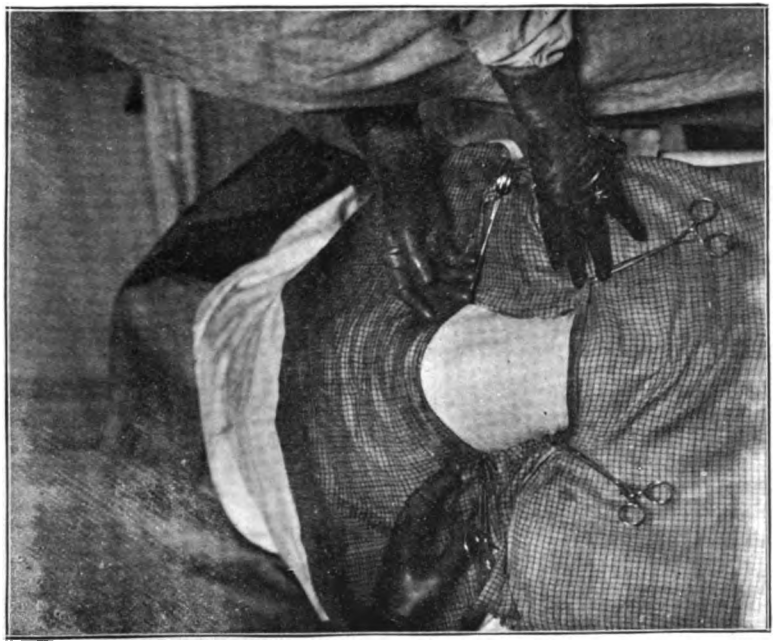

FIG. 24.

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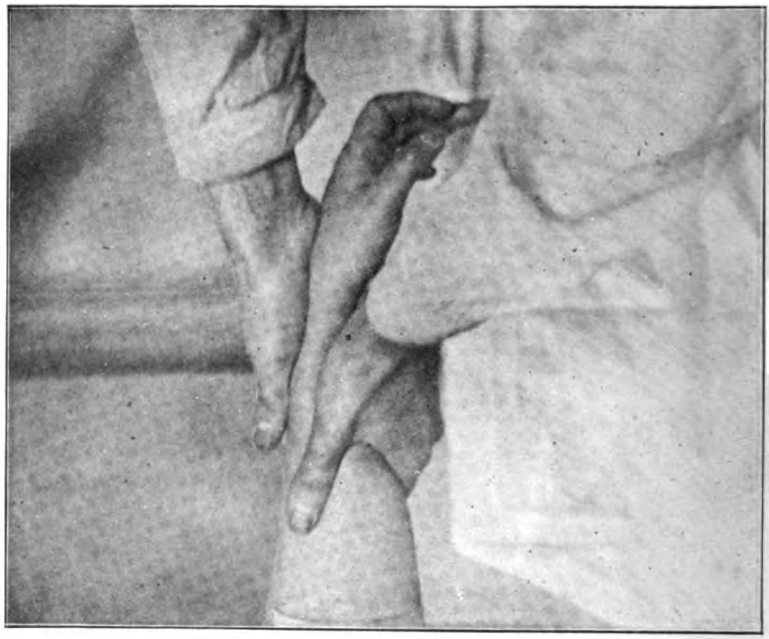

FIG. 27.

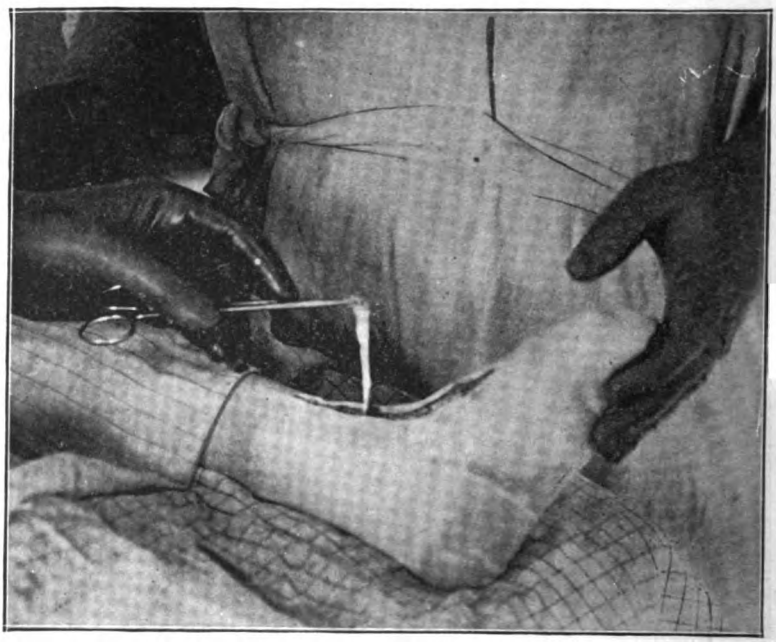

FIG. 26.

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FIG. 29.

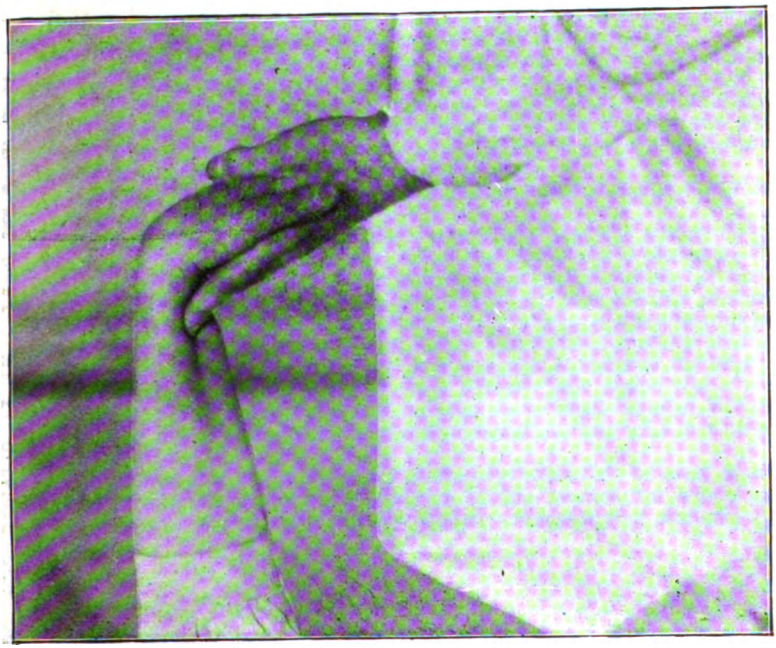

FIG. 28.

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PART III.

THE ANNUAL REGISTER
OF THE
MEDICAL ASSOCIATION
OF THE
STATE OF ALABAMA.

THE BOOK OF THE ROLLS OF THE MEDICAL ASSOCIATION OF THE STATE OF ALABAMA.

INTRODUCTION.—OF LEGAL IMPORTANCE TO EVERY PHYSICIAN IN THE STATE OF ALABAMA.

Owing to the legal relation which *each* member of *each* county medical society bears to the STATE OF ALABAMA (which relations are set forth in the Code of the State), it is *absolutely necessary* that the presidents, secretaries, treasurers, members of the boards of censors, and each individual member of the societies, should see that the roster of their respective societies is sent to the Secretary of the State Association in accordance with the specific instructions, printed on the blanks sent to the secretary of each county society.

It is, therefore, urged upon the officers of each county medical society to see that, in future, the reports are properly filled out in accordance with the printed instructions on the blank. It is advised that the secretaries compare their reports for the current year with the reports, as printed in the volume of Transactions for the previous year, and that *all changes* be carefully made.

A strict compliance with the instructions printed on the blank for report will avoid all difficulties.

Explanation.—The letters "mc" stand for "medical college;" the letters "cb" for "county board;" when the certificate is issued by the examining board of some other county than that in which the member or non-member then resides, the name of such county succeeds the abbreviation. "State Board" or "s. b." indicates that the license was issued after an examination before the State Board of Medical Examiners. The first name of every board of censors is that of the chairman of the board. The letters "ng" stand for "non-graduate." "Diploma recorded" applies to a small number of doctors who are exempt from criminal prosecution, but who are illegal doctors.

The name of a city and a year in line with the title of each county society indicate the place of meeting of the Association when, and the year in which, the charter of the corresponding society was granted.

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THE ROLL OF THE COUNTY MEDICAL SOCIETIES.

REVISION OF 1917

AUTAUGA COUNTY MEDICAL SOCIETY—Montgomery, 1874.

OFFICERS.

President, J. E. Wilkinson, Sr., Prattville; Vice-President, R. M. Golson, Prattville; Secretary, E. M. Thomas, Prattville; Treasurer, E. M. Thomas, Prattville; County Health Officer, E. M. Thomas, Prattville; City Health Officers, J. E. Wilkinson, Jr., Prattville; R. G. Shanks, Autaugaville; E. H. Downes, Billingsley. Censors—R. M. Golson, Chairman, Prattville; E. M. Thomas, Prattville; E. H. Downes, Billingsley; M. D. Smith, Prattville; R. G. Shanks, Autaugaville.

NAMES OF MEMBERS, WITH THEIR COLLEGES AND POSTOFFICES.

Cale, Charney, mc Memphis Hosp. 04, cb 04, Vida.
Downs, Elbert Horton, mc Chattanooga 00, cb 00, Billingsley.
Golson, Robert Marion, mc univ Tennessee 91, cb 94, Prattville.
Marlar, Alonzo J., mc Memphis Hosp. 92, cb Tuscaloosa 94, Billingsley.
Martin, Jesse H., mc Memphis Hosp. 10, State Board 10, Jones.
Shanks, R. G., mc Memphis Hosp. 01, cb Butler 01, Autaugaville.
Smith, Malcolm D., mc univ New York 91, cb Coosa 91, Prattville.
Taylor, George Malcolm, mc Atlanta P. & S. 05, cb 05, Prattville.
Thomas, Eugene Marvin, mc P. & S., Baltimore 07, cb 07, Prattville.
Wilkinson, John Edward, Sr., mc Tulane 69, cb 80, Prattville.
Wilkinson, John Edward, Jr., mc univ of the South 00, cb 00, Prattville.
Total, 11.

PHYSICIANS NOT MEMBERS.

Campbell, Virgil O., mc Birmingham 97, cb Chilton 97, Kingston.

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Moved into the county—R. G. Shanks, from Black, Geneva county, to Autaugaville.

Moved out of the county—James Tankersley, from Autaugaville to Shawmut, Chambers county; J. W. H. Herrman, from Autaugaville to Bessemer, Rt. 2; L. H. Sentiff, from Riderville to Riderwood, Choctaw county.

BALDWIN COUNTY MEDICAL SOCIETY—Anniston, 1886.

OFFICERS.

President, V. McR. Schowalter, Point Clear; Vice-President, J. H. Hastie, Stockton; Secretary, G. L. Lambert, Bay Minette; Treasurer, G. L. Lambert, Bay Minette; County Health Officer, G. L. Lambert, Bay Minette; City Health Officers, Joseph Hall, Bay Minette; C. L. Mershon, Fairhope; S. D. Armistead, Foley. Censors—R. Van Iderstine, Chairman, Loxley; V. McR. Schowalter, Point Clear; J. C. McLeod, Bay Minette; C. L. Mershon, Fairhope; J. H. Hastie, Stockton.

NAMES OF MEMBERS, WITH THEIR COLLEGES AND POSTOFFICES.

Aikin, William G., mc Alabama 01, cb 01, Stockton.
Armistead, Sydney D, mc Alabama 10, State Board 11, Foley.
Godard, Claud G., mc Alabama 14, State Board 14, Fairhope.
Hall, Richard Allen, mc Tennessee 94, cb 01, Robertsdale.
Hall, Joseph, mc Alabama 01, cb 01, Bay Minette.
Hastie, John Hamilton, mc univ Tennessee 99, cb 99, Stockton.
Holmes, Sibley, mc Alabama 96, cb 96, Foley.
Kiehnhoff, George W., mc Alabama 13, State Board 14, Daphne.
Lambert, George Lee, mc Alabama 94, cb Choctaw 95, Bay Minette.
McKinley, Charles F., mc Alabama 07, cb Monroe 07, Perdido.
McLeod, John Calvin, mc Birmingham 00, cb Coosa 00, Bay Minette.
Mershon, Clarence L., mc Iowa 98, cb 98, Fairhope.
Schowalter, Volney McReynolds, mc Alabama 90, State Board 90, Point Clear.
Van Iderstine, Reginald, mc Chicago 06, cb 06, Loxley.
Total, 14.

PHYSICIANS NOT MEMBERS.

Coghlan, Malachi, mc Alabama 92, cb 92, Tensaw.

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Cowgill, Eugene Park, univ Mo. 04, State Board 15, Magnolia Springs.
Gilliard, Thomas Hamilton, mc Alabama 06, cb Mobile 06, Magnolia Springs.
Hodgson, Philip Morton, mc Atlanta 89, cb Monroe 99, Stockton.
Peavy, J. Frank, Jr., mc Alabama 12, State Board 12, Robertsdale.
Scott, Harvey E., mc Vanderbilt univ 80, cb Dallas 80, Battles Wharf.
Sheldon, Geo. A., mc Alabama 92, cb Mobile 92, Daphne.
Total, 7.

Moved into the county--Sibley Holmes, from Monroe county to Foley.

Moved out of the county—Jesse Reed McCampbell from Bay Minette to Chunchula, Mobile county.

BARBOUR COUNTY MEDICAL SOCIETY—Eufaula, 1878.

OFFICERS.

President, Judson Davie, Comer; Vice-President, W. G. Lewis, Eufaula; Secretary, J. W. Fenn, Eufaula; Treasurer, J. W. Fenn, Eufaula; County Health Officer, G. O. Wallace, Clio; City Health Officers, J. M. Bell, Eufaula; B. F. Jackson, Clayton; B. F. Bennett, Louisville; J. S. Tillman, Clio; J. D. McLaughlin, Blue Springs. Censors—W. S. Britt, Chairman, Eufaula; J. J. Winn, Clayton; Clarence Long, Comer; B. F. Bennett, Louisville; W. P. Copeland, Eufaula.

NAMES OF MEMBERS, WITH THEIR COLLEGES AND POSTOFFICES.

Belcher, Wm. R., mc Atlanta 89, cb 91, Baker Hill.
Bell, John Mack, mc Alabama 15, State Board 15, Eufaula.
Bennett, Benjamin Franklin, mc Alabama 93, cb 93, Louisville.
Britt, Walter Stratton, mc Bellevue 98, cb Bullock 98, Eufaula.
Copeland, Wm. Preston, mc Bellevue 70, cb 78, Eufaula.
Davie, Judson, mc Augusta 72, cb 81, Comer, R. F. D.
Davie, Meigs, ng, State Board 98, Comer, R. F. D.
Faust, Daniel Bascom, mc univ Alabama 13, State Board 13, Clayton.
Fenn, Joe Wallace, mc univ Alabama 11, State Board 11, Eufaula.
Houston, Joseph Lafayette, mc Vanderbilt 98, cb 98, Comer.
Jackson, Benjamin F., mc Vanderbilt 08, State Board 07, Clayton.

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Lewis, Wm. Gabriel, mc Atlanta 84, cb Henry 84, Eufaula.
Long, Clarence, mc Chattanooga 01, cb 02, Comer.
McInnis, Wm. R., mc Memphis Hosp. 96, cb 99, Clio.
McLaughlin, James Daniel, mc univ Alabama 10, State Board 10, Blue Springs.
Norton, Robert Olon, mc univ Alabama 11, State Board 11, Louisville.
Patterson, Thomas, mc Atlanta 69, cb 82, Louisville.
Patterson, Robert B., mc P. & S. Atlanta 99, cb 99, Louisville.
Reid, James, mc univ Alabama 12, State Board 12, Clayton.
Shaw, Wm. M., mc Chattanooga 05, cb 06, Clio.
Smart, William Alpheus, mc Louisville 84, cb Coffee 84, Clayton.
Tillman, John S., mc Grant univ 07, cb 07, Clio.
Tisinger, Louis F., ng, State Board 07, Eufaula.
Wallace, George Oscar, mc Alabama 91, cb 91, Clio.
White, Robert Lee, mc Alabama 98, State Board 98, Clayton.
Winn, James Julius, mc Atlanta 60, cb 81, Clayton.
Total, 26.

PHYSICIANS NOT MEMBERS.

Gilbert, Alvenzi Jasper, mc Atlanta 89, cb 89, Eufaula.
Glover, Maximillian, ng, State Board 98, Clio.
McCoo, Thomas V., mc Leonard 06, cb 07, Eufaula.
Shell, L. P., mc Vanderbilt 05, cb 05, Blue Springs.
Stephens, David Dudley, mc Alabama 95, cb Lowndes 95, Louisville.
Weedon, Walter R., mc Kentucky 94, cb 94, Eufaula.
Total, 6.

Moved into the county—James Reid, from Birmingham to Clayton; John Mack Bell, first location, to Eufaula.

Moved out of the county—E. S. Couric, from Mt. Andrew to Woodward; L. A. Coleman, from Blue Springs to Abbeville.

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BIBB COUNTY MEDICAL SOCIETY—Birmingham, 1887.

OFFICERS.

President, W. A. Sparks, Garnsey; Vice-President, G. W. Williamson, Woodstock; Secretary, M. B. Williams, Centerville; Treasurer, M. B. Williams, Centerville; County Health Officer, L. E. Peacock, West Blocton; City Health Officer, L. E. Peacock, West Blocton. Censors—J. S. Williamson, Chairman, Piper; N. T. Davie, West Blocton; S. C. Meigs, Centerville; W. B. Buntin, Centerville; C. F. Krout, Centerville.

NAMES OF MEMBERS, WITH THEIR COLLEGES AND POSTOFFICES.

Abernethy, Wm. Henry, mc Alabama 09, State Board 09, Brent.
Allgood, Homer Wilson, mc Birmingham 12, State Board 13, Blocton.
Buntin, Wm. Battle, mc Memphis Hosp. 00, cb 01, Centerville, R. F. D. 4.
Davie, Nickols T., mc Tulane 09, State Board 09, West Blocton.
Krout, Chas. Franklin, mc Alabama 95, cb 05, Centerville.
Lee, Lucien Tennent, mc Alabama 04, cb Barbour 04, Coleanor.
Meigs, Stephen C., mc univ Alabama 02, cb 02, Centerville.
Nettles, Robbins, mc Alabama 11, State Board 11, Belle Ellen.
Peacock, Lovick Edward, mc Alabama 92, cb Marengo 92, West Blocton.
Ray, Jacob Ussery, mc univ Tennessee 93, cb 93, Woodstock.
Smith, Elisha Baker, mc Birmingham 12, State Board 14, Blocton.
Sparks, William Angelo, mc univ Alabama 05, cb Walker 05, Garnsey.
Staples, Jacob D, mc Birmingham 14, State Board 15, Camp Hugh.
Thomas, M. C., mc Tulane 99, cb 99, Blocton.
Trigg, Abram Walter, mc Alabama 81, cb Tuscaloosa 81, Blocton.
Tucker, John S., mc Alabama 06, cb Marengo 06, Blocton, R. 1.
Vance, J. Glenn, mc Birmingham 05, cb Tuscaloosa 05, Marvel.
Williams, Martin Barbour, mc Birmingham 07, cb Tuscaloosa 07, Centerville.
Williamson, George William, mc Vanderbilt 00, State Board 09, Woodstock.
Williamson, John S., mc Vanderbilt 03, cb Perry 03, Piper.
Total, 20.

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HONORARY MEMBER.

Will M. Thornberry, mc Louisville, Ky. 74, retired.

PHYSICIANS NOT MEMBERS.

Campbell, Charlie P., mc Tenn. 94, cb Bibb 94, Centerville, Rt. 3.
Cleveland, Jackson S., mc Birmingham 07, Bibb 07, Lawley.
Collins, Alonzo K., mc Louisville 90, cb Lamar 91, Blocton, R. F. D. 1.
Nicholson, William John, mc Vanderbilt 84, cb 86, Centerville.
Schoolar, Thornley Edward, mc Vanderbilt 92, cb 92, Centerville.
Pugh, Braxton Bragg, mc Alabama 89, cb Clarke 89, Hargrove.
Total, 6.

Moved into the county—Wm. Henry Abernethy, from Old Spring Hill to Brent; Robbins Nettles, from Tuscaloosa to Belle Ellen; B. B. Pugh, from Pelham to Hargrove; E. B. Smith, from New York City to Blocton; Geo. W. Williamson, from Verbena to Woodstock.

Moved out of the county—Grady D. Broadhead, from Randolph to Chilton county; Clyde W. Garmon, from Hargrove to ——; Chas. P. Martin, from Woodstock to Rock Castle; Thos. Knox Mullens, from Belle Ellen to Talladega county; Wm. Marcus Peters, from Centerville to Medical Corps U. S. Army; Audiss M. Walker, from Brent to Carrollton.

BLOUNT COUNTY MEDICAL SOCIETY—Eufaula, 1878.

OFFICERS.

President, D. L. Moore, Clarence; Vice-President, C. L. Stansberry, Oneonta; Secretary, J. T. Hancock, Oneonta; Treasurer, J. T. Hancock, Oneonta; County Health Officer, E. L. Tidwell, Cleveland; City Health Officer, N. C. Denton, Oneonta. Censors—J. T. Stone, Chairman, Oneonta; M. P. Stephens, Oneonta; J. A. Brice, Sneed; J. T. Hancock, Oneonta; N. C. Denton, Oneonta.

NAMES OF MEMBERS, WITH THEIR COLLEGES AND POSTOFFICES.

Brice, J. Arthur, mc Birmingham 13, State Board 13, Altoona, R.F.D.
Denton, Marvin, mc univ Nashville 05, cb 07, Altoona, R. F. D.
Denton, Nathan Carter, mc univ Nashville 05, cb 06, Oneonta.

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Hancock, Jesse Thomas, mc Alabama 77, cb Pickens 78, Oneonta.
Lovett, William J., mc Birmingham 09, State Board 09, Blount Springs.
McCay, Timothy C., mc Birmingham 15, State Board 15, Village Spgs.
Miles, William C., mc Birmingham 00, cb Blount 00, Cleveland.
Moore, David Sanders, mc Atlanta 80, cb Blount 80, Clarence.
Shepherd, Samuel T., mc Atlanta P. & S. 02, cb Walker 03, Lehigh.
Stansberry, Chas. Lee, Grant univ 99, Fayette cb 01, Oneonta.
Stephens, Miles Pinkney, mc univ Grant 94, cb Blount 94, Oneonta.
Stone, Joseph T., mc Memphis Hosp. 91, cb Marion 91, Oneonta.
Tidwell, Ephraim L., mc Birmingham 13, State Board 14, Cleveland
Total, 13.

PHYSICIANS NOT MEMBERS.

Allgood, William Barnett, mc Atlanta 78, cb 78, Allgood.
Baines, William Talley, mc Vanderbilt 88, cb 88, Blountsville.
Ballinger, J. F., ng, cb 77, Blountsville, R. F. D.
Finley, Wm. M., mc Vanderbilt 79, cb 79, Blountsville.
Haden, Andrew Wade, mc Vanderbilt 82, cb 82, Summit.
Hutto, Aaron Simeon, mc Birmingham 15, State Board 15, Village Springs.
Morris, J. W., mc Nashville 04, cb 04, Liberty.
Self, George Washington, mc Baltimore 90, cb 90, Village Springs.
Stubbs, William Lee, mc Alabama 99, cb 99, Horton, R. F. D.
Whitehead, Vernon Erick, mc Alabama 15, State Board 15, Blountsville.
Total, 10.

Moved out of the county—H. L. Wald, from Blountsville to ——.

BULLOCK COUNTY MEDICAL SOCIETY—Eufaula, 1878.

OFFICERS.

President, H. M. Dismukes, Union Springs; Vice-President, S. C. Cowan, Union Springs; Secretary, B. B. Edwards, Union Springs; Treasurer, T. J. Dean, Union Springs; County Health Officer, C. M. Franklin, Union Springs; City Health Officers, H. M. Dismukes, Union Springs; W. H. Harrison, Midway; Oscar Johnson, Fitzpatrick; J. W. Thomason, Perote; G. M. Guthrie, Inverness. Cen-

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sors—C. M. Franklin, Chairman, Union Springs; Oscar Johnson, Fitzpatrick; T. J. Dean, Union Springs; J. L. Bowman, Union Springs; S. C. Cowan, Union Springs.

NAMES OF MEMBERS, WITH THEIR COLLEGES AND POSTOFFICES.

Ayres, Chas. J., mc univ Virginia 86, cb Dallas 86, Omega.
Bowman, James Luther, mc univ Virginia 01, cb 01, Union Springs.
Cowan, Samuel Colvin, mc Alabama 80, cb 89, Union Springs.
Darnell, Benjamin Franklin, ng, cb 83, Fitzpatrick.
Dean, Thomas Joseph, mc Louisville 94, cb Chambers 94, Union Spgs.
Dismukes Henry Mosley, mc univ Tennessee 07, State Board 09, Union Springs.
Edwards, Bryant Benjamin, mc Columbia 14, State Board 15, Union Springs.
Franklin, Chas. Moore, mc P. & S., New York 98, cb 98, Union Springs.
Griswold, Joel Clifford, mc Vanderbilt 05, cb 05, Fitzpatrick, R. F. D.
Guthrie, Emmet M., mc Vanderbilt 05, cb 05, Thompson, R. F. D.
Guthrie, George Martin, mc Alabama 00, cb 00, Inverness.
Harrison, William Henry, mc Chattanooga 93, cb Barbour 93, Midway.
Johnson, Oscar, mc Alabama 96, cb Pike 96, Fitzpatrick.
McLaurine, Hugh F., mc Vanderbilt 11, State Board 11, Fitzpatrick.
Rankin, Howard P., mc Tulane 10, State Board 10, James.
Thomason, James Wiley, mc Alabama 10, State Board 11, Perote.
Total, 16.

PHYSICIANS NOT MEMBERS.

Allen, Alex. Geo. William, mc Meharry 99, cb Russell 99, Union Springs.
Williams, Anderson Milton, mc Leonard 00, cb 00, Union Springs.
Total, 2.

Moved out of the county—John R. Oswalt, from Union Springs to Washington, D. C.; E. M. Moore, from James to Prattville.

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BUTLER COUNTY MEDICAL SOCIETY—Montgomery, 1875.

OFFICERS.

President, W. D. Nettles, Garland; Vice-President, J. L. Bryan, Greenville; Secretary, L. V. Stabler, Greenville; Treasurer, L. V. Stabler, Greenville; County Health Officer, J. L. Perdue, Greenville; City Health Officer, J. L. Perdue, Greenville. Censors—W. D. Nettles, Chairman, Garland; J. L. Bryan, Greenville; J. A. Kendrick, Greenville; H. K. Tippin, Chapman; W. B. Moorer, McKenzie.

NAMES OF MEMBERS, WITH THEIR COLLEGES AND POSTOFFICES.

Bryan, Jas. Lafayette, mc Alabama 01, cb Crenshaw 01, Greenville.
Hawkins, Mack Creech, mc Tulane 07, State Board 06, Greenville.
Henderson, Hiliary H., mc Alabama 08, State Board 08, Bolling.
Jordan, James, mc Memphis hosp 12, State Board 12, Georgiana, R. F. D.
Kendrick, John Aaron, mc Tulane 94, cb 94, Greenville.
Moorer, Rufus Alonzo, mc Sewanee 02, cb Lowndes 02, Georgiana, R. F. D.
Moorer, Walter B., mc Birmingham 03, cb Conecuh 03, McKenzie.
Morris, William Eli, mc Alabama 97, cb Conecuh 97, Georgiana.
McCane, James Jordan, mc Tulane 82, cb 82, McKenzie.
Nettles, William D., mc Alabama 10, State Board 10, Garland.
Perdue, James Lewis, mc Alabama 75, cb 75, Greenville.
Stabler, Andrew Lee, mc Vanderbilt 09, State Board 08, Greenville.
Stabler, Lorenzo V., mc Vanderbilt 98, cb 98, Greenville.
Stallings, Thomas Daniel, mc Alabama 89, cb Lowndes 89, Greenville.
Tippins, Henry K., mc Chicago Col. of M. & S. 08, State Board 08, Chapman.
Wall, Conrad, mc Alabama 97, cb Butler 97, Forest Home.
Wall, Richard A., mc Tulane 94, cb 94, Forest Home.
Watson, Robert H., mc Alabama 05, cb 05, Georgiana, R. F. D.
Total, 18.

PHYSICIANS NOT MEMBERS.

Garrett, James Jefferson, mc Georgia Eclectic 82, cb 82, Forest Home.

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Jennings, Samuel Kirk, mc Alabama 04, cb Chambers 04, Georgiana.
Nuttall, Harry M. (col), mc univ Mich. 04, State Board 04, Greenville.
Watson, James Crawford, mc Alabama 98, cb 98, Georgiana.
Total, 4.

Moved into the county—S. K. Jennings, from Castleberry to Georgiana.

CALHOUN COUNTY MEDICAL SOCIETY—Montgomery. 1881.

OFFICERS.

President, R. L. Hughes, Anniston; Vice-President, A. N. Steele, Anniston; Secretary, L. H. Woodruff, Anniston; Treasurer, E. C. Anderson, Anniston; County Health Officer, J. F. Rowan, Jacksonville; City Health Officers, L. H. Woodruff, Anniston; R. T. McCraw, Oxford; W. H. Kinabrew, Piedmont; James Williams, Jacksonville. Censors—A. N. Steele, Chairman, Anniston; M. J. Williams, Oxford; J. F. Rowan, Jacksonville; H. O. Sparks, Piedmont; E. C. Anderson, Anniston.

NAMES OF MEMBERS, WITH THEIR COLLEGES AND POSTOFFICES.

Anderson, Edmunds Clack, mc Kentucky Sch. Med. 77, cb 85, Anniston.
Arbery, Clifford Goodman, mc Birmingham 10, State Board 10, Anniston.
Arbery, William Buchanan, mc Vanderbilt 82, cb Macon 82, Jacksonville.
Barker, Erastus Thomas, mc Memphis Hospital 99, cb Cleburne 99, McFall.
Brothers, Thomas Jefferson, mc P. & S. Baltimore 03, State Board 02, Anniston.
Caffey, Benjamin F., mc Tulane 11, State Board 11, Choccolocco.
Cleveland, C. Hal, mc Vanderbilt 15, State Board 15, Anniston.
Crook, Jerre Edward, mc Vanderbilt 83, cb 83, Jacksonville.
Cryer, George A., mc Vanderbilt 03, cb Elmore 04, Anniston.
Curlee, Elijah L., mc University South 06, cb Clay 06, Anniston.
Douthit, Andrew Jackson, ng, cb 81, Jacksonville.
Hawkins, John P., mc Chattanooga 94, cb St. Clair 96, Oxford.

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Huey, Thomas Ford, mc Tulane 01, cb Perry 01, Anniston.

Hughes, Robert Lee, mc Atlanta 92, cb 92, Anniston.

Kinabrew, William Henry, mc univ New York 73, cb 83, Piedmont.

Levi, Irwin Palmer, mc univ Pennsylvania 09, State Board 09, Anniston.

Leyden, Horace Alma, mc univ Tennessee 09, State Board 10, Anniston.

Martin, Henry Marcellus, Jr, mc univ Virginia 99, State Board 00, Anniston.

McCraw, Reuben Terrell univ of Ala. 13 State Board 14, Oxford.

Meharg, Robert Lee, mc Alabama 06, cb 06, Alexandria.

Meharg, Shelton Theo., mc Memphis Hospital 00, cb 00, Weaver.

Meharg, William Gray, mc Memphis Hospital 99, cb 99, Ohatchee.

Morgan, Wm. T., mc Vanderbilt 94, cb Cleburne 94, Piedmont.

Morris, John David, mc Atlanta 14, State Board 14, Piedmont.

Nourse, Alvin Lebrun, mc Beach 86, cb 05, Anniston.

Rowan, John Forney, mc univ Virginia 79, univ N. Y. 80, cb 06, Jacksonville.

Sargent, Oscar, mc Vanderbilt 80, cb Franklin 88, Jacksonville.

Sellers, Edward Moran, mc Alabama 97, cb Bibb 97, Anniston.

Sellers, Neal, mc univ Alabama 05, State Board 05, Anniston.

Sellers, William David, mc P. & S. Atlanta 02, State Board 02, Anniston.

Sparks, Horace Ollie, mc P. & S. Atlanta 02, cb 02, Piedmont.

Steele, Abner Newton, mc Alabama 90, cb Pickens 90, Anniston.

Watson, Jerre, mc univ Alabama 16, State Board 16, Anniston.

Weaver, Frank C., mc univ of Ala. 13, State Board 13, Anniston.

Williams, Mark Johnson, mc Birmingham 02, cb 02, Oxford.

Williams, James C, mc Birmingham 10, State Board 10, Jacksonville.

Woodruff, Leroy H., mc univ Alabama 13, State Board 14, Anniston. Total, 37.

PHYSICIANS NOT MEMBERS.

Chitwood, William D, mc univ South 04, cb Lowndes 04, De-Armanville.

Harris, Hardy Fleming (col), mc Meharry 05, cb Elmore 05, Anniston.

Huger, Richard Proctor, mc South Carolina 71, cb 81, Anniston.

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Jackson, Fred D., mc Meharry 14, State Board 14, Anniston.
Ligon, Arthur Wellington, mc Vanderbilt 83, cb Cleburne 84, Oxford.
Morgan, James Orville, mc Emory 16, State Board 17, Piedmont.
Rodgers, Gordon Alexander (col.), mc Meharry 08, State Board 07, Anniston.
Sasville, E. M., mc N. W. univ 02, State Board 05, Anniston.
Sharp, Geo. B, Sou. Med. Col. 93, cb Cherokee 93, Piedmont.
Teague, Frank B., mc univ Tennesee 80, cb Etowah 80, Piedmont.
Thomas, Chas. Edward (col.), mc Long Island Hosp. 90, cb 90, Anniston.
Vann, Paul D., mc Alabama 96, cb 96, Anniston.
Vansant, John W., mc Ga. Coll. Eclectic M. & S. 04, cb Marshall 06, Piedmont.
Walker, James Fleming, mc Louisville 92, cb 92, Anniston.
Whiteside, John McIntyre, mc Vanderbilt 84, cb 94, Anniston.
Wilborne, Don (col.), mc Leonard 09, State Board 10, Anniston.
Williams, George Coke, ng, old law, White Plains.
Total, 17.

Moved into the county—C. Hal Cleveland, from Centerville to Anniston; Neal Sellers, from Mobile to Anniston; L. H. Woodruff, from Birmingham to Anniston; Jerre Watson, from University of Alabama Medical College to Anniston, and J. O. Morgan to Piedmont.

Moved out of the county—J. B. Cummings, from Anniston to Virginia; Thomas E. Reeves, from Oxford to Wilsonville, Shelby county; J. W. Landham, from Anniston to Atlanta.

Died—R. L. Bowcock, Anniston, May 16, 1916, pneumonia, and A. A. Greene, Anniston, June 10, 1916.

CHAMBERS COUNTY MEDICAL SOCIETY—Montgomery, 1881.

OFFICERS.

President, Hugh McCullough, West Point, Ga.; Vice-President, R. L. Weldon, Lanett; Secretary, W. H. Riser, Milltown; Treasurer, W. H. Riser, Milltown; County Health Officer, J. T. Clack, Abanda; City Health Officers, Hugh McCullough, Lanett; N. A. Wheeler, Lafayette. Censors—N. A. Wheeler, Chairman, Lafayette; W. L. Marshall, Langdale; T. H. Haralson, Cusseta; J. T. Clack, Abanda; Brock Ramage, Lafayette.

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NAMES OF MEMBERS, WITH THEIR COLLEGES AND POSTOFFICES.

Clack, James Thomas, mc Birmingham 11, State Board 11, Abanda.
Coggin, Fount Randall B., mc Alabama 11, State Board 11, Waverly.
Finley, Emmet M., mc Sou. Med. 96, cb 96, Standing Rock.
Gaines, William D., mc Alabama 92, cb 92, Lafayette.
Grady, Zachary Taylor, mc Atlanta 80, cb 81, Lafayette.
Green, Elbert P., mc Augusta 99, cb Randolph 99, Stroud, R. 1.
Haralson, Thomas H., mc Memphis Hospital 99, cb Tallapoosa 99, Cusseta.
Hodges, Wyatt T., mc Alabama 92, cb 97, River View.
Ison, Josiah Allen, mc Southern 87, cb Tallapoosa 87, Lafayette, R. 6.
Marshall, W. L., mc P. & S. Atlanta 06, cb Randolph 06, Langdale.
McCullough, Hugh, mc Atlanta 95, cb ...., West Point, Ga.
Milford, H. A., mc ...., cb ...., Five Points.
Piper, Barney Lee, mc Atlanta 16, State Board 16, Stroud, R. 1.
Ramage, Raymond Brock, mc Vanderbilt 14, State Board 14, Lafayette.
Rea, Benjamin F., mc univ of Ala. 85, cb 86, Lafayette.
Riser, William H., mc Alabama 08, State Board 07, Milltown.
Rutland, John B., mc Sou. Med. 80, cb 82, Lanett.
Stevens, Reuben Calvin, mc South. Med. Col. 92, cb Cleburne 97, Lafayette.
Weldon, Jesse L., mc Birmingham 11, State Board 12, Lanett.
Weldon, Robert L., mc Georgia Eclectic 92, cb 00, Lanett.
Wheeler, N. A., mc P. & S. Atlanta 07, cb 07, Lafayette.
Total, 21.

PHYSICIANS NOT MEMBERS.

Coleman, Hiram F., mc Atlanta 82, cb 82, Stroud, R. F. D.
Smith, Alfred C., mc Atlanta 12, State Board 14, Shawmut.
Turk, William Pelham, mc Atlanta 92, cb 01, Abanda.
Tankersley, Jas., mc univ Alabama 06, cb Crenshaw 06, Shawmut.
Total, 4.

Moved into the county—James Tankersley, from Autauga county to Shawmut; Alfred C. Smith, from Sycamore to Shawmut, and Wm. P. Turk, to Abanda.

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CHEROKEE COUNTY MEDICAL SOCIETY—Tuscaloosa, 1887.

OFFICERS.

President, S. C. Tatum, Centre; Vice-President, W. S. McElrath, Cedar Bluff; Secretary, R. L. McWhorter, Gaylesville; Treasurer, R. L. WcWhorter, Gaylesville; County Health Officer, S. C. Tatum, Centre. Censors—S. C. Tatum, Chairman, Centre; W. S. McElrath, Cedar Bluff; J. P. Farill, Farill; L. R. Stone, Taff; R. L. McWhorter, Gaylesville.

NAMES OF MEMBERS, WITH THEIR COLLEGES AND POSTOFFICES.

Boozer, Wm. Henry, mc Atlanta 09, State Board 09, Rock Run.
Callan, Thos. Edward, mc Alabama 94, cb DeKalb 94, Gaylesville.
Cardon, Samuel Garrett, mc Alabama 02, cb 02, Center.
Emerson, John Forest, mc Grant univ 95, cb Marshall 97, Spring Garden.
Farill, John Paul, mc Atlanta 81, cb 87, Farill.
McElrath, William Sparks, mc Memphis 00, cb 00, Cedar Bluff.
McWhorter, Robert Lee, mc Alabama 87, cb 87, Gaylesville.
Sewell, William Asberry, mc Birmingham 12, State Board 12, Center.
Sigrist, Otho Randolph, mc Birmingham 08, State Board 08, Cedar Bluff.
Stone, Leonard Rice, mc Grant univ 05, cb Bibb 05, Taff.
Tatum, Samuel Carter, mc Vanderbilt 93, cb 93, Center.
Total, 11.

HONORARY MEMBER.

White, Thomas Noel, mc univ Georgia 60, cb 87, Spring Garden.
Total, 1.

PHYSICIANS NOT MEMBERS.

Brown, Alexander M., mc Ga. Eclectic 77, cb 87, Round Mountain.
Cook, Edward Augustus, mc Vanderbilt 84, cb 84, Cave Springs, Ga.
Gullatt, J. A., ng, illegal, Round Mountain.
Matthews, John Patrick, mc univ Nashville 84, cb 87, Leesburg.
Wright, Luther, mc Atlanta 98, cb 98, Cedar Bluff.
Total, 5.

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Moved out of the county—L. V. White, from Jamestown to parts unknown.

CHILTON COUNTY MEDICAL SOCIETY—1879.

OFFICERS.

President, J. P. Hayes, Clanton; Vice-President, V. J. Gragg, Clanton; Secretary, S. E. Johnson, Clanton; Treasurer, S. E. Johnson, Clanton; County Health Officer, S. E. Johnson, Clanton; City Health Officers, S. E. Johnson, Clanton; J. L. Kincaid, Jemison; Arthur Johnson, Thorsby; I. G. Armstead, Maplesville. Censors—J. P. Hayes, Chairman, Clanton; N. S. Johnson, Clanton; J. L. Kincaid, Jemison; R. J. Eiland, Coopers; W. E. Kay, Maplesville.

NAMES OF MEMBERS, WITH THEIR COLLEGES AND POSTOFFICES.

Armistead, Isaac Grant, mc Mobile 13, State Board 14, Maplesville.
Eiland, John Daniel, mc univ Nashville 11, State Board 12, Mountain Creek.
Eiland, Robert John, non-graduate, State Board 07, Coopers.
Gragg, Vincent Jones, mc Tulane 08, State Board 06, Clanton.
Hayes, Julius Poe, mc Memphis Hospital 96, cb 96, Clanton.
Johnson, Arthur, mc Vanderbilt 09, State Board 09, Clanton.
Johnson, Napoleon S., mc univ Alabama 01, cb 01, Clanton.
Johnson, Samuel E., mc Vanderbilt 11, State Board 11, Clanton.
Kay, Wm. Eli, mc Maryland 05, cb Pickens 05, Maplesville.
Kincaid, John L., mc Birmingham 12, State Board 12, Jemison.
Mason, David Adams, mc Maryland 04, cb 05, Stanton.
McNeill, R. Berney, mc Memphis Hospital 98, cb 98, Jemison.
Parnell, Chas. Nicholas, mc Alabama 91, cb 91, Maplesville.
Strock, Chas. Stewart, mc Vanderbilt 04, cb Chilton 04, Verbena.
Wise, William Tell, mc Atlanta Southern 89, cb 94, Cooper.
Total, 15.

PHYSICIANS NOT MEMBERS.

Christian, James Clark, Old Law, Mountain Creek.
DuBose, Julius Jesse, mc Atlanta 95, cb 95, Stanton.
Johnson, Jos. M. B., mc Miami 83, cb Shelby 87, Jemison.

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Woolley, Albert M., mc Alabama 00, cb Bibb 00, Thorsby.
Woolley. C. Morgan, mc univ of Ala. 93, Thorsby.
Total, 5.

Moved into the county—Jno. D. Elland, from Autauga county to Mountain Creek; C. M. Woolley, from Florida to Thorsby.

Moved out of the county—P. I. Hopkins, from Clanton to Dothan; T. J. Marcus, from Clanton to Birmingham; George W. Williamson, from Verbena to Woodstock; S. S. Boykin, from Riderville to Oak Hill, Wilcox county; John P. Ellsberry, from Mountain Creek to Montgomery (retired).

CHOCTAW COUNTY MEDICAL SOCIETY—Selma, 1879.

OFFICERS.

President, T. M. Littlepage, Mt. Sterling; Vice-President, J. M. Stanley, Silas; Secretary, G. F. Littlepage, Butler; Treasurer G. F. Littlepage, Butler; County Health Officer, W. H. Christopher, Lisman. Censors—J. C. Christopher, Chairman, Pennington; T. M. Littlepage, Mt. Sterling; J. M. Stanley, Silas; Jno. Rudder, Melvin; Sam Miller, Yantley.

NAMES OF MEMBERS, WITH THEIR COLLEGES AND POSTOFFICES.

Alman, Sam, mc Louisville 98, cb 98, Gilbert Town.
Christopher, Frank E., mc Louisville 94, cb 94, Isney.
Christopher, John C., mc Louisville 94, cb 94, Pennington.
Christopher, Walter H., mc Memphis Hospital 01, cb 01, Lisman.
Granberry, Joseph Langley, mc Louisville 91, cb 91, Gilbert Town.
James, Ashley D., mc Alabama 01, cb 01, Pennington.
Littlepage, G. Fred, mc Tulane 09, State Board 07, Butler.
Littlepage, Thomas M., mc Alabama 04, cb 04, Mt. Sterling.
Miller, Samuel T., mc Alabama 01, cb Greene 04, Yantley.
Moore, Walter N., mc Louisville 03, cb 04, Lisman.
Robinson, Henry W., mc Memphis Hospital 01, cb 01, Bevill.
Rudder, John, mc Nashville 07, cb 07, Melvin.
Senteff, Louis H., mc Alabama 04, cb 04, Riderwood.
Stanley, Joseph M., mc Tennessee 09, State Board 10, Silas.

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Taylor, Earle E., mc univ Tennessee 04, Baldwin 04, Silas.
Total, 15.

PHYSICIANS NOT MEMBERS.

Carnathon. Wm. George, mc Alabama 05, cb 05, Halsell.
Horn, Edward G., mc Ky. Sch. of Med. 01, cb 01, Pushmataha.
Jackson, Columbus A., mc Alabama 08, State Board 08, Toxey.
Lenoir, Thos. R., mc Alabama 92, cb 92, Womack Hill.
Mason, Howard H., mc Alabama 03, cb 03, Butler.
Phillips, J. P., mc Alabama 86, cb 86, Yantley.
Ray, Thos. Jackson, mc Memphis hosp 96, State Board 14, Riderwood.
Staples, W. B., mc Nashville 02, cb Washington 02, Bladon Springs.
Total, 8.

Moved into the county—L. H. Senteff, from Riderville to Riderwood; Thos. J. Ray, from Selma to Riderwood.

CLARKE COUNTY MEDICAL SOCIETY—Greenville, 1885.

OFFICERS.

President, J. G. Bedsole, Grove Hill; Vice-President, C. I. Dahlberg, Suggsville; Secretary, J. M. Cobb, Grove Hill; Treasurer, L. O. Hicks, Jackson; County Health Officer, J. M. Cobb, Grove Hill; City Health Officers, J. A. Gilmore, Thomasville; J. E. Evans, Fulton; J. C. Godbold, Whatley; J. R. Armistead, Jackson. Censors—J. T. Pugh, Chairman, Grove Hill; J. A. Kimbrough, Thomasville; B. F. Adams, Fulton; J. R. Armistead, Jackson; L. O. Hicks, Jackson.

NAMES OF MEMBERS, WITH THEIR COLLEGES AND POSTOFFICES.

Adams, Benjamin F., mc Alabama 08, State Board 08, Fulton.
Armistead, John Robert, mc Maryland 08, State Board 08, Jackson.
Armistead, James Westwood, mc Alabama 83, cb 84, Grove Hill.
Bedsole, James Goodman, mc Vanderbilt 11, State Board 11, Grove Hill.
Boroughs Bryan, mc univ Louisville 69, cb 84, Jackson.
Chapman, Gross S., mc Alabama 79, cb 84, Jackson.
Cobb, Jesse M., mc Tulane 93, cb 93, Grove Hill.

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Dahlberg, Charles Isaac, mc Alabama 87, cb Choctaw 88, Suggsville.
Davidson, James S., mc Alabama 92, cb 93, Thomasville.
Davis, Lawrence J., mc Alabama 95, cb 96, Bashi.
Eldson James Thomas, mc Alabama 94, Bullock 94, Coffeeville.
Evans, Josiah Edward, mc Alabama 00, cb 00, Fulton.
Fleming, John W., mc Alabama 79, cb 84, Salitpa.
Gilmore, John Arcade, mc Louisville 86, cb 86, Thomasville.
Godbold, John Cooper, Jr., mc univ Alabama 11, State Board 11, Whatley.
Hicks, Lamartine Orlando, mc Alabama 71, cb 84, Jackson.
Kimbrough, John A., mc Louisville 98, cb 98, Thomasville.
McVay, Leon Victor, mc Alabama 15, State Board 15, Salitpa.
Pugh, Albert Sidney, mc Kentucky School Med. 92, cb 93, Grove Hill.
Pugh, Clement E, mc Alabama 89, cb 89, Grove Hill.
Pugh, John T., mc Vanderbilt 97, cb 97, Grove Hill.
Robinson, Amos N., mc Alabama 93, cb 94, Coffeeville.
Rudder, Bryant C., mc univ Nashville 11, State Board 11, Walker Springs.
Shaw, Robert E., mc Alabama 98, State Board 99, Whatley.
Trice, Peter A., mc Louisvile 02, cb Choctaw 02, Morvin.
White, Alexander L., mc Memphis Hospital 98, cb 98, Thomasville.
Total, 26.

PHYSICIANS NOT MEMBERS.

Armistead, Lee, ng, cb Choctaw, Campbell.
Cowan, C. E., mc univ Alabama 11, State Board 11, Cunningham.
Gillespie, Robert C., mc Louisville Med. Col. 83, cb Sumter 91, Gainestown.
Total, 3.

Moved into the county—R. C. Gillespie, from Marengo county to Gainestown.

Moved out of the county—F. M. Justice, from Salitpa to ——; T. C. Kelly, from Thomasville to Florida; K. R. Cammack, to Century, Fla.; W. F. Cobb, to Monroe county.

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CLAY COUNTY MEDICAL SOCIETY—Selma, 1879.

OFFICERS.

President, J. M. Barfield, Lineville; Secretary, B. C. Scarbrough, Ashland; Treasurer, B. C. Scarbrough, Ashland; County Health Officer, B. A. Stephens, Lineville; City Health Officers, J. W. Jordan, Ashland; B. A. Setphens, Lineville. Censors—M. L. Shaddix, Chairman, Ashland; J. M. Barfield, Lineville; A. H. Owens, Ashland; J. S. Gay, Delta.

NAMES OF MEMBERS, WITH THEIR COLLEGES AND POSTOFFICES.

Barfield, Jesse M., mc P. & S. Atlanta 01, cb 01, Lineville.
Campbell, Wm. A., non-graduate, cb Talladega, Pyriton.
Cornelius, Daniel R., mc Atlanta 08, cb Montgomery 08, Ashland.
Dean, Leon, mc univ. of Ala. 13, State Board 14, Lineville.
Gay, Coleman P., mc Atlanta Southern 97, cb Randolph 97, Lineville.
Gay, James S., mc Birmingham 05, cb 05, Delta.
Gay, Stonewall Jackson, mc Atlanta Southern 88, cb Randolph 88, Lineville.
Hilt, John L., mc Atlanta Southern 89, cb Clay 89, Lineville.
Jordan, Joseph Wiley, mc Atlanta 91, cb 87, Ashland.
Killgore, James J., mc Memphis Hospital 01, cb 01, Wadley, R. F. D.
Northen, Chas. S., mc Atlanta 91, cb 91, Ashland.
Northen, Thomas, mc Atlanta 78, cb 87, Ashland.
Owens, Arthur H., mc Alabama 05 cb 05, Ashland.
Owens, Seaborn Wesley, ng 87, cb 87, Ashland.
Price, Wm. Hugh, mc Birmingham 10, State Board 11, Cragford.
Scarbrough, Bemon C, mc univ Tennessee 11, State Board 11, Ashland.
Shaddix, Marion Leonard, mc univ Alabama 10, State Board 10, Ashland.
Slaughter, Myles Jasper, mc univ Alabama 05, cb 05, Millerville.
Stephens, Albert R., mc Atlanta Southern 88, cb 88, Delta.
Stephens, Burrell Anderson, mc Alabama 92, cb 92, Lineville.
Wilson, Ollie E., mc univ Ala. 10, State Board 10, Millerville.
Total, 21.

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PHYSICIANS NOT MEMBERS.

Pruet, Madison Jasper, mc Memphis Hospital 96, cb 96, Clairmont Springs, R. F. D.

Jordan, Jay Wm, mc Atlanta Southern 11, State Board 14, Cragford.

Jordan, Curry Erastus, Chicago M. & S. 14, illegal, Ashland, Rt. 5.

Moved into the county—J. W. Jordan, from Malone, Randolph county, to Cragford; D. R. Cornelius, from Lauderdale to Ashland.

Died—J. T. Manning, Lineville.

CLEBURNE COUNTY MEDICAL SOCIETY—Selma, 1884.

OFFICERS.

President, S. L. B. Blacke, Fruithurst; Vice-President, Baxter Rittenberry, Heflin, R. F. D. 3; Secretary, L. R. Wright, Heflin; Treasurer, L. R. Wright, Heflin; County Health Officer, S. L. B. Blacke, Fruithurst. Censors—J. D. Duke, Chairman, Heflin; S. L. B. Blacke, Fruithurst; W. H. Lindsey, Hightower; J. M. Lindsey, Hightower; Baxter Rittenberry, Heflin, R. F. D. 3.

NAMES OF MEMBERS, WITH THEIR COLLEGES AND POSTOFFICES.

Blacke, Simeon Lovell Bearce, mc Ohio 69, cb 98, Fruithurst.

Duke, Jefferson Davis, mc Atlanta Southern 84, cb Randolph 84, Heflin.

Hurt, Jas. P., Old Law, Edwardsville.

Lindsey, Jeremiah M., mc Chattanooga 97, cb 97, Hightower.

Lindsey, William Henry, mc Chattanooga 94, cb 94, Hightower.

Rittenberry, Baxter, mc Birmingham 99, cb St. Clair 99, Heflin, R. 3.

Wood, Frank Richard, mc Chattanooga 01, cb Randolph 01, Heflin, R. F. D.

Wright, Lee Roy, mc univ Nashville 00, cb 00, Heflin.

Total, 8.

NON-MEMBER.

Ligon, Jas. H., mc Vanderbilt 91, cb 91, Heflin, Rt. 3.

Moved into the county—F. R. Wood, from Roanoke to Heflin.

Moved out of the county—J. P. Houston, from Edwardsville to Tallapoosa, Ga.

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COFFEE COUNTY MEDICAL SOCIETY—Greenville, 1885.

OFFICERS.

President, P. T. Fleming, Enterprise; Vice-President, J. D. Blue, Elba; Secretary, W. A. Lewis, Enterprise; Treasurer, W. A. Lewis, Enterprise; County Health Officer, J. B. Woodall, New Brockton; City Health Officers, E. L. Gibson, Enterprise; W. C. Braswell, Elba; B. J. Massey, New Brockton. Censors—B. J. Massey, Chairman, New Brockton; J. B. Woodall, New Brockton; B. F. Thrower, Enterprise, R. F. D.; A. T. Colley, Enterprise, and C. P. Hayes, Elba.

NAMES OF MEMBERS, WITH THEIR COLLEGES AND POSTOFFICES.

Akins, James Luther, mc univ Alabama 11, cb 11, Kingston.
Blue, Jasper Dixon, ng, cb 85, Elba.
Bragg, Eugene G., mc Birmingham 14 State Board 15, Victoria.
Braswell, William Cicero, mc Tulane 09, State Board 09, Elba.
Byrd, Benjamin Littleberry, mc unv Alabama 92, cb Dale 92, Enterprise.
Colley, Aaron Thomas, mc univ Louisville 94, cb Pike 94, Enterprise.
Fleming, Porter Thomas, mc Louisville 94, cb 94, Enterprise.
Folsom, Marion A., mc univ Alabama 07, cb 07, Victoria.
Gibson, Edward Lee, mc Birmingham 13, State Board 13, Enterprise.
Hayes, Charles Phillip, mc Louisville 06, cb Houston 06, Elba.
Lewis, Walter Augustus, mc Tulane 97, cb Barbour 97, Enterprise.
Massey, Bartlett Jones, mc Birmingham 03, cb Jefferson 03, New Brockton.
Mixson, Clarence William, mc univ Alabama 08, State Board 08, Elba, R. F. D.
Stanley, William Alfred, mc Alabama 12, State Board 12, Enterprise.
Thrower, Benjamin Franklin, mc univ Alabama 11, State Board 12, Enterprise, R. F. D. 4.
Townsend, Austin Flint, mc univ Alabama 02, cb Pike 02, Enterprise.
White, Henry Herbert, mc univ Alabama 05, cb Clarke 05, Enterprise.
Woodall, John Brooks, mc Memphis Hospital 11, State Board 13, New Brockton.

Total, 18.

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HONORARY MEMBER.

Crook, William Henry, mc Alabama 84, cb 85, Victoria.

PHYSICIANS NOT MEMBERS.

Ballard, Benj. Randall, mc univ Tennessee 94, cb Crenshaw 94, Kinston.
Bowden, Coley C., mc Alabama 13, State Board 14, Glenwood, R. F. D.
Crook, William Randolph, mc Chattanooga 06, cb 06, Victoria.
Edwards, George Traylor, mc Alabama 14, State Board 14, Elba.
Ham, Nelson Matthews, mc univ Alabama 98, cb Elba, R. F. D.
Harrison, King William, mc 96, cb Lowndes 97, Enterprise.
Norris, Ray Hart, mc univ of Ala. 97, cb Monroe 97, Enterprise (retired).
Pruett, David P., mc Alabama 09, State Board 09, Elba, R. F. D.
Treadwell, Lucius M., non-graduate, cb Pike 85, Enterprise.
Waters, Harvey A., univ of Ala. 12, State Board 12, Elba.
Total, 10.

Moved into the county—A. F. Townsend, from Daleville to Enterprise.

Moved out of the county—H. G. Huey, from New Brockton to Georgia.

COLBERT COUNTY MEDICAL SOCIETY—Montgomery, 1881.

OFFICERS.

Vice-President, W. S. Adams, Cherokee; Secretary, J. T. Haney, Tuscumbia; Treasurer, J. T. Haney, Tuscumbia; County Health Officer, J. T. Haney, Tuscumbia; City Health Officers, W. J. Maxwell, Sheffield; Wm. M. Pierce, Tuscumbia. Censors—C. R. Palmer, Sr., Chairman, Tuscumbia; C. W. Williams, Cherokee; W. J. Maxwell, Sheffield; H. W. Blair, Sheffield; L. W. Chapman, Tuscumbia.

NAMES OF MEMBERS, WITH THEIR COLLEGES AND POSTOFFICES.

Adams, Wily Simeon, mc univ Georgia 08, State Board 10, Cherokee.
Blake, Wyatt Heflin, mc Vanderbilt 83, cb Randolph 87, Sheffield.

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Chapman, Leland W., mc univ Alabama 11, State Board 11, Tuscumbia.

Evans, Robert C., mc univ. of South 05, cb Jefferson 05, Sheffield.

Finley, William Albert, mc non-graduate, State Board 09, Maud.

Haney, Julius Tillman, mc Alabama 91, cb 92, Tuscumbia.

McWhorter George Tilghman, mc ....., cb 81, Riverton (retired).

Masterson, John H., mc Louisville 89, cb 89, Leighton.

Maxwell, Walter John, mc univ of South 01, cb Tuscaloosa 01, Sheffield.

Palmer, Charles Richard, mc Vanderbilt 83, cb 83, Tuscumbia.

Palmer, Chas. R., mc univ Tennessee 15, State Board 15, Tuscumbia.

Pierce, William M., mc Memphis Hospital 03, cb Calhoun 04, Tuscumbia.

Walker, David Harris, mc Vanderbilt 81, cb 81, Leighton.

Williams, Charles W., mc Nashville 73, cb 81, Cherokee.

Total, 14.

PHYSICIANS NOT MEMBERS.

Davis, A. W. (colored), mc Meharry 03, cb Perry 03, Tuscumbia.

Harris, J. Monroe, mc ....., cb ...., Cherokee.

Morris, Chas. T., mc Louisville 80, cb Henry 81, Sheffield.

O'Reilly, John Edward, mc Alabama 74, Old Law 84, Cherokee.

Ruffin, W. L. (colored), mc Leonard 08, cb Montgomery 08, Sheffield.

Sanford, W. J., illegal, Leighton.

Total, 6.

Moved into the county—L. W. Chapman, from Mobile to Tuscumbia; W. L. Ruffin (colored), from —— to Sheffield.

Moved out of the county—L. J. Graves, from Leighton to Russellville; L. W. Desprez, from Tuscumbia to Memphis, Tenn.

Died—H. W. Blair, Sheffield.

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CONECUH COUNTY MEDICAL SOCIETY—Selma, 1879.

OFFICERS.

President, J. W. Hagood, Evergreen; Vice-President, W. A. Blair, Herbert; Secretary, W. F. Betts, Evergreen; Treasurer, W. F. Betts, Evergreen; County Health Officer, J. W. Hagood, Evergreen; City Health Officers, E. L. Stallworth, Evergreen; E. L. Kelly, Repton; S. K. Jennings, Castleberry. Censors—C. Rubach, Chairman, Evergreen; W. A. Blair, Herbert; W. M. Salter, Repton; P. B. Skinner, Belleville; G. G. Newton, Evergreen.

NAMES OF MEMBERS, WITH THEIR COLLEGES AND POSTOFFICES.

Belo, Frederick A., inc. Jefferson 70, Old Law, Evergreen (retired).
Betts, William Franklin, mc Tulane 92, cb Monroe 92, Evergreen.
Blair, Wesley A., mc Tulane 05, State Board 04, Herbert.
Carter, Joel H., mc Alabama 10, State Board 10, Castleberry.
Fountain, Hugh Thomas, mc Alabama 72, cb Monroe 79, Burnt Corn.
Haggard, Wm. Andrew, mc Alabama 11, State Board 11, Brooklyn.
Hagood, John W., mc Alabama 98, cb Lowndes 98, Evergreen.
Hairston, William George, mc Maryland 04, State Board 04, Burnt Corn.
Hawthorne, Henry Mabury, mc Alabama 10, State Board 10, Castleberry.
Holland, Richard Thomas, mc Alabama 90, cb Escambia 90, Castleberry.
Jones, Urbam Louis, mc univ Missouri 04, cb Geneva 04, Brooklyn.
Kelly, Edward Lamar, mc Alabama 00, cb 05, Repton.
Newton, Guy Guerdon, mc Alabama 97, cb 97, Evergreen.
Rubach, Carl, mc Memphis Hosp. 94, cb 96, Evergreen.
Salter, Wilbur M., mc Alabama 07, cb 07, Repton.
Skinner, Percy B., mc Alabama 05, cb 05, Belleville.
Stallworth, Emmett Lemuel, mc Alabama 94, cb 94, Evergreen.
Total, 17.

PHYSICIANS NOT MEMBERS.

Cammack, Kossuth R., mc Alabama 14, State Board 14, Evergreen, R. F. D.
Ferguson, A. M., mc Alabama 03, cb Baldwin 08, Bermuda.

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Franklin, James Alexander, mc Michigan 14, State Board 15, Evergreen.

Total, 8.

Moved into the county—Kossuth Rothschild Cammack, from Suggsville to Alger-Sullivan Lumber Camps, Evergreen, R. F. D.

Moved out of the county—Samuel Kirk Jennings, from Castleberry to Georgiana, Ala.

COOSA COUNTY MEDICAL SOCIETY—Birmingham, 1883.

OFFICERS.

President, L. H. Ledbetter, Goodwater; Vice-President, A. K. Whetstone, Rockford; Secretary, J. A. R. Chapman, Kellyton; Treasurer, J. A. R. Chapman, Kellyton; County Health Officer, C. K. Maxwell, Kellyton; City Health Officers, C. K. Maxwell, Kellyton; J. W. Pruett, Weogufka; Jno. A. M. Nolen, Equality; A. K. Whetstone, Rockford; W. H. Moon, Goodwater. Censors—C. K. Maxwell, Chairman, Kellyton; A. J. Peterson, Goodwater, Route 3; J. T. Hunter, Equality; J. E. Hardin, Rockford, Route 2; Julius Jones, Rockford.

NAMES OF MEMBERS, WITH THEIR COLLEGES AND POSTOFFICES.

Argo, Eugene, mc Vanderbilt 91, cb 91, Goodwater.

Cousins, Sam Townsend, mc Birmingham 10, State Board 12, Equality.

Chapman, John A. R., mc univ Alabama 12, State Board 12, Kellyton.

Dunlap, W. B., ng, Botanist, cb 83, Hollins.

Harden, J. Elze, mc univ Nashville 08, State Board 08, Rockford, Route 1.

Hunter, John T., mc Birmingham 01, cb 01, Equality.

Jones, Julius, mc Vanderbilt 84, cb 84, Rockford.

Ledbetter, Llewellyn H., mc Louisville 07, cb Tallapoosa 07, Goodwater.

Maxwell, Cecil Kelly, mc Alabama 91, cb 92, Kellyton.

Moon, William Henry, mc Alabama 79, cb 83, Goodwater.

Nolen, John A. M., mc univ Alabama 04, cb 04, Equality.

Penton, John Abner, mc P. & S. Baltimore 00, cb 01, Goodwater.

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Peterson, Albert Jefferson, mc Vanderbilt 89, cb 89, Goodwater, Route 3.
Pruett, James W., mc Alabama 92, cb 92, Weogufka.
Whetstone, Adair K., mc Birmingham 14, State Board 14, Rockford.
Total, 15.

Moved out of the county—P. P. Salter, from Goodwater to ——.

COVINGTON COUNTY MEDICAL SOCIETY—Montgomery, 1888.

OFFICERS.

President, L. D. Parker, Andalusia; Vice-President, J. W. Fleming, Lockhart; Secretary, L. E. Broughton, Andalusia; Treasurer, L. E. Broughton, Andalusia; County Health Officer, W. M. Blair, Gantt; City Health Officers, W. L. Bean, Andalusia; F. Young, Florala; J. C. McLeod, Opp; J. E. Terry, Red Level; H. W. Waters, Falco; M. A. Kirklin, River Falls; J. W. Fleming, Lockhart. Censors—T. Q. Ray, Chairman, Andalusia; A. M. Richards, Andalusia; L. D. Parker, Andalusia; J. C. McLeod, Opp; H. W. Jordan, Red Level.

NAMES OF MEMBERS, WITH THEIR COLLEGES AND POSTOFFICES.

Adams, Edward L., mc Alabama 97, cb 97, Florala.
Battle, Henry E., mc univ Tennessee 96, State Board 97, Andalusia.
Bean, Walton L.. mc Louisville 97, cb Geneva 97, Andalusia.
Blair, William M., mc univ Ala. 10, State Board 10, Gantt.
Broughton, Louis Edward, mc Tulane 93, cb Butler 93, Andalusia.
Campbell, Daniel J., mc Mississippi 09, State Board 09, Dozier, R. F. D.
Dalton, Toby E., mc Georgia Eclectic 94, cb Coffee 95, Opp.
Ealum, James R., mc Alabama 91, cb 91, Red Level.
Fleming, John W., mc Alabama 08, State Board 08, Lockhart.
Gallaway, Fletcher W., mc Memphis Hospital 03, cb Houston 03, Florala.
Gresham, George L., mc Tulane 05, Covington 05, Andalusia.
Jordon, Henry Washington, mc Memphis Hosp. 12, State Board 12, Red Level.
Kirklin, Marion Augustus, mc univ Ala. 13, State Board 13, River Falls.

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McLeod, John C., mc Alabama 04, cb Barbour 04, Opp.
Miller, Robert L., mc Georgia Eclectic M. & S. 94, cb Covington 94, Florala, and Paxton, Fla.
Nix, George C., mc univ Texas 04, cb Chilton 04, Opp.
Parker, Lorenzo Dowe, mc univ Alabama 01, cb 01, Andalusia.
Pennington, James C., mc univ Tenn. 94, cb Crenshaw 94, Andalusia.
Pierson, Whatley W., mc Alabama 99, cb Covington 99, River Falls.
Ray, Thomas Q., mc Atlanta Southern 95, cb Crenshaw 95, Andalusia.
Richards, Albert M., mc Maryland 04, State Board 08, Andalusia.
Smith, Eugene R., mc Maryland 04, State Board 04, Andalusia.
Smith, William R., mc Alabama 86, cb Butler 86, Red Level.
Stewart, Benjamin C., mc Alabama 00, cb Pike 00, Opp.
Terry, Jas. Edward mc Ala. 02, cb Hale 02, Red Level.
Waters, Hinton W., mc univ Alabama 13, State Board 13, Falco.
Wynn, Andrew Lee, mc univ Maryland 89, cb 03, Florala.
Young, Ferrin, mc Vanderbilt 09, State Board 09, Florala.
Total, 28.

PHYSICIANS NOT MEMBERS.

Phillips, J. P., mc Memphis Hosp. Marion, cb 98, Florala.

Moved out of the county—T. C. Bozeman, from Gantt to Dixie, Escambia county.

CRENSHAW COUNTY MEDICAL SOCIETY—Mobile, 1882.

OFFICERS.

President, F. M. T. Tankersley, Luverne; Vice-President, M. L. Morgan, Honoraville; Secretary, H. A. Donovan, Patsburg; Treasurer, H. A. Donovan, Patsburg; County Health Officer, J. R. Horn, Luverne; City Health Officers, R. K. Horn, Rutledge; M. L. Watkins, Glenwood. Censors—F. M. T. Tankersley, Chairman, Luverne; H. A. Donovan, Patsburg; J. R. Horn, Luverne; M. L. Morgan, Honoraville; C. W. Sheppard, Honoraville.

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NAMES OF MEMBERS, WITH THEIR COLLEGES AND POSTOFFICES.

Abercrombie, Henry S., mc non-graduate, State Board 98, Petrey.
Bell, Walter Houston, mc univ Nashville 06, cb 06, Searight.
Donovan, Harry Arthur, mc univ Louisville 07, cb 07, Patsburg.
Foster, James O, mc P. & S. Atlanta 06, cb Crenshaw 06, Luverne.
Gilchrist, Jas. G., mc univ Alabama 13, State Board 13, Brantley.
Horn, Richard Kersey, mc Georgia Eclectic 81, cb 84, Rutledge.
Horn, Joseph Robert, mc Alabama 87, cb 87, Luverne.
Kendrick, James E., mc Alabama 69, cb 82, Luverne.
Morgan, Manly Lane, mc Birmingham 03, cb 03, Honoraville.
Rogers, Wm. T., mc Alabama 00, cb Butler 01, Luverne.
Sheppard, Chas. Webb, mc Atlanta Southern 91, cb Butler 91, Honoraville.
Tankersley, Felix M. T., mc univ Tenn. 85, Tulane 95, cb 85, Luverne.
Tranum, George Henry, mc univ Alabama 07, cb 07, Brantley.
Watkins, Martin Lucius, mc Vanderbilt 99, cb 99, Glenwood.
Total, 14.

PHYSICIANS NOT MEMBERS.

Ford, Julian C., mc P. & S. St. Louis 96, cb 96, Bradleyton.
Jones, Andrew Jackson, mc Kentucky School Med. 85, cb 85, Highland Home.
Jordan, Samuel E., mc Tulane 05, cb 05, Highland Home.
Kendrick, B. Marvin, mc Alabama 03, cb 04, Luverne.
May, Sam W., mc P. & S. Baltimore 82, cb 82, Brantley.
Merrill, Joseph Porter, mc Memphis Hosp. 02, cb 02, Dozier.
Moxley, Joseph Benjamin, mc Georgia Eclectic 99, cb 99, Brantley.
Pollard, Emmet Eugene, mc Alabama 16, State Board 16, Luverne.
Taylor, Thos. Walter, mc Atlanta 15, State Board 15, Dozier.
Total, 9.

Moved into the county—E. E. Pollard, from Montgomery to Luverne.

Moved out of the county—J. DeW. Garrett, from Luverne to Birmingham.

Died—Wm. P. Knight, Luverne.

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CULLMAN COUNTY MEDICAL SOCIETY—Anniston, 1886.

OFFICERS.

President, G. Hartung, Cullman; Vice-President, L. Hays, Cullman; Secretary, J. C. Martin, Cullman; Treasurer, G. Hartung, Cullman; County Health Officer, R. H. Baird, Cullman; City Health Officers, R. H. Baird, Cullman; Chas. Hayes, Hanceville. Censors—G. Hartung, Chairman, Cullman; L. Hays, Cullman; A. Culpepper, Cullman; J. C. Martin, Cullman; E. D. McAdory, Cullman.

NAMES OF MEMBERS, WITH THEIR COLLEGES AND POSTOFFICES.

Armstrong, Jesse Irom, mc Chattanooga 93, cb Blount 93, Cullman.

Baird, Robert Henry, mc Alabama 92, cb Blount 92, Cullman.

Brindley, Bethea Portis, mc Ga. Col. Eclectic M. & S. 92, cb 92, Cullman, R. F. D.

Cornelius, Luther Barnett, mc Birmingham 12, State Board 13, Vinemont, Route 1.

Cossey, James Thomas, mc Atlanta Southern 91, Cullman 96, Cullman.

Culpepper, Rufus Alva, mc Chicago M. & S. 14, State Board 15, Cullman.

Graf, Chas. Christopher, mc Birmingham 13, State Board 14, Hanceville.

Hartung, Gottlob, mc Wurzburg, Germany 78, cb 92, Cullman.

Hayes, Charles, mc Chattanooga 03, cb Morgan 03, Hanceville.

Hays, Luther, mc Chattanooga 00, cb 01, Cullman.

Herrin, Chas. Edward, mc Chattanooga 02, cb 02, Cullman, R. 1.

Humphries Robert D., mc Georgia Eclectic 92, cb 96, Vinemont, R. 3.

Lee, General Robert, mc Birmingham 06, cb 06, Arkadelphia.

Martin, Asa Price, mc Chattanooga 97, cb Morgan 97, Cullman.

Martin, James Cordie, mc Chattanooga 05, cb Morgan 05, Cullman.

May, Wm. Lucius, mc Memphis 97, State Board 97, Hanceville.

McAdory, Edward Dudley, mc Birmingham 14, State Board 15, Cullman.

Parker, James Doc., mc Memphis Hosp. 99, cb 01, Arkadelphia.

Price, William Henry, mc univ Tennessee 90, cb Cleburne 98, Cranehill.

Sudduth, Toll H., mc Birmingham 15, State Board 15, Garden City.

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Watts, Henderson E., mc Atlanta 02, cb 02, Hollypond.
Winn, John Thomas, mc univ Tennessee 93, cb 93, Baileyton.
Yielding, John, mc Chatanooga 94, cb 94, Hanceville.
Total, 23.

PHYSICIANS NOT MEMBERS.

Burnum, Francis B., ng, cb Cullman 86, Cullman.
Cleere, Ruel C., mc Birmingham 09, State Board 09, Cullman, R. 8.
Garrett Richard H. L., mc Maryland 02, cb Lowndes 02, Trimble.
Walling, J. H. Old Law, cb 86, Vinemont.
White, Chas. Peyton, mc Memphis Hosp. 09, State Board 13, Bremen, Route 1.
Total, 5.

Moved into the county—R. H. L. Garret, from Montgomery county to Trimble; C. P. White, from Shelby county to Bremen, Route 1.

Moved out of the county—Findley Foster, from Hanceville, Route 2, to Blount County; R. C. Steward, from Holly Pond to Jefferson county; A. A. Thurlow, from Cullman to Oklahoma; W. R. Harris, from Garrison Point to Texas.

Died—T. W. Barclift.

DALE COUNTY MEDICAL SOCIETY—Tuscaloosa, 1887.

OFFICERS.

President, J. H. Patton, Ariton; Vice-President, J. L. Reynolds, Ozark; Secretary, R. D. Reynolds, Ozark; Treasurer, R. D. Reynolds, Ozark; County Health Officer, J. L. Reynolds, Ozark; City Health Officers, A. L. Townsend, Daleville; A. J. Morris, Newton; I. A. Black, Midland City; W. R. Smith, Pinckard; E. B. Ard, Ozark. Censors—E. B. Ard, Chairman, Ozark; H. L. Holman, Ozark; I. A. Black, Midland City; A. J. Morris, Newton; R. D. Reynolds, Ozark.

NAMES OF MEMBERS, WITH THEIR COLLEGES AND POSTOFFICES.

Ard, Erastus Byron, mc Vanderbilt 87, cb 87, Ozark.
Black, Irby Andrew, mc univ Alabama 10, State Board 11, Midland City.

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Cotter, William Arnice, mc univ Louisville 09, State Board 10, Ozark, R. F. D.

Grace, Malcom O., mc Vanderbilt 09, State Board 10, Ozark.

Holman, Henderson Looney, mc Memphis 98, cb Monroe 98, Ozark.

Matthews, Augustus Douglas, mc univ Ala. 11, State Board 13, Ariton.

Mixson, Daniel Porter, mc P. & S. Atlanta 02, cb Coffee 02, Ozark. R. F. D.

Mixson, William Daniel, mc Chattanooga 98, cb 98, Midland City.

Morris, Andrew Jackson, mc Atlanta Southern 87, Geneva 89, Newton.

Parrish, Wm. A., mc univ Nashville 09, State Board 10, Midland City.

Patton, John Hampton, mc univ Alabama 02, cb Pickens 02, Ariton.

Reynolds, Jno. Leonard, mc Alabama 07, cb Dale 07, Ozark.

Reynolds, Robert Davis, Jr., mc univ Alabama 05, cb 05, Ozark.

Windham, Lewis Anthony, mc Atlanta 16, State Board 16, Daleville. Total, 14.

PHYSICIANS NOT MEMBERS.

Espey, Curtis, mc univ of South 04, cb Henry 04, Midland City.

Scott, Walter, mc Atlanta 10, State Board 14, Ozark, Route 6.

Smith, Willie R., mc Memphis Hospital 06, State Board 08, Pinckard.

Stovall, H. C., mc Alanta 08, State Board 08, Clopton.

Townsend, Albert Levy, mc Nashville 99, ck Pike 99, Daleville.

Weems, William M., mc Alabama 91, cb Henry 91, Clopton. Total, 6.

Moved into the county—Walter Scott, from Newville, Henry county, to Ozark, R. F. D.; L. A. Windham, first location to Daleville.

Moved out of the county—F. B. Cullen, from Newton to Georgia; R. H. Norris, from Ariton to Coffee county; A. F. Townsend, from Daleville to Enterprise.

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DALLAS COUNTY MEDICAL SOCIETY—Montgomery, 1875.

OFFICERS.

President, S. B. Allison, Minter; Vice-President, S. Kirkpatrick, Selma; Secretary, B. B. Rogan, Selma; Treasurer, J. S. Chisholm, Selma; County Health Officer, T. G. Howard, Selma; City Health Officer, B. B. Rogan, Selma. Censors—S. G. Gay, Chairman, Selma; B. B. Rogan, Selma; W. W. Harper, Selma; S. Kirkpatrick, Selma; F. G. DuBose, Selma.

NAMES OF MEMBERS, WITH THEIR COLLEGES AND POSTOFFICES.

Allison, Samuel Blakemore, mc Louisville 91, Dallas 93, Minter, R. F. D.

Burns, Wm. Wilkes, mc Tulane 15, State Board 16, Selma.

Callaway, Eugene, mc univ Virginia 04, Bellevue 05, State Board 10, Selma.

Chapman, John Thomas, mc Alabama 86, cb Marengo 87, Selma.

Chisolm, James Satterfield, mc Tulane 05, cb 06, Selma.

Chisholm, Robert Patrick, mc univ Alabama 93, cb 93, Summerfield.

Doherty, Drayton H., mc Johns Hopkins 15, State Board 15, Selma.

Donald, Joseph Glen, mc Tulane 11, State Board 11, Marion Junction.

Donald, James Marion, mc Alabama 84, cb 84, Marion Junction.

DuBose, Francis Goodwin, mc Tulane 93, cb Talladega 93, Selma.

Elebash, Clarence C., mc Tulane 09, State Board 11, Selma.

Edwards, Daniel B., mc Alabama 98, cb 98, Tyler, R. F. D.

Feulner, Chas. Daniel, mc Kentucky School Med. 92, State Board 06, Tyler, R. F. D.

Furniss, John Neilson, mc univ Virginia 00, Bellevue 01, cb 03, Selma.

Gay, Samuel Gilbert, mc Alabama 87, cb 87, Selma.

Harper, William Wade, mc Tulane 91, cb 91, Selma.

Harrell, William Somerville, mc Tulane 04, cb 04, Pleasant Hill.

Howard, Thomas Greenwood, mc univ Washington 68, cb Autauga 78, Selma.

Jones, Lee, mc univ Virginia 09, State Board 10, Selma.

Kendall, William Quinton, mc P. & S. Baltimore 80, cb 80, Berlin.

King, Goldsby, mc South Carolina 86, cb 80, Selma.

Kirkpatrick, Samuel, mc univ Vanderbilt 88, cb 88, Selma.

Lockhart, Thomas Earnest, mc Tulane 90, cb Perry 90, Selma.

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Maas, Monroe A., mc Johns Hopkins 11, State Board 11, Selma.
Martin, Thomas Marion, mc Vanderbilt 99, cb Chilton 99, Plantersville.
Moss, Phillip Ball, mc Johns Hopkins 09, State Board 10, Selma.
Moore, Lawrence Henry, mc univ Alabama 01, cb 01, Orrville.
Pegues, Chas. Ives, mc Tulane 93, cb 96, Safford.
Phillips, William Crawford, mc Tulane 78, cb 78, Selma.
Pickering, Alfred Burt, mc univ Alabama 11, State Board 11, Selma.
Pullen, Clarence Joseph, mc ....., State Board 05, Selma.
Riggs, Samuel Watt, mc P. & S. Baltimore 93, State Board 93, Pleasant Hill.
Rogan, Barney Burns, mc Grant univ 96, cb 96, Selma.
Skinner, Ira Clifton, mc Birmingham 01, cb 01, Selma.
Smith, James Cephas, mc univ Alabama 05, Greene 05, Browns.
Strickland, Mack Wilton, mc univ Alabama 00, cb Lowndes 01, Minter, R. F. D.
Stuart, Wm. W., mc Kentucky School Med. 94, cb Wilcox 94, Selma, Route 1.
Sutton, Robert Lee, mc Columbia 89, cb Lee 89, Orrville.
Walker, L. McCarlis, mc univ Alabama 11, State Board 11, Burnsville.
Wallace, Archibald D., mc Memphis Hosp. 07, cb Autauga 07, Plantersville.
Ward, Edward Burton, mc univ New York 82, Hale 82, Selma.
Wilson, John W., mc Vanderbilt 03, cb 03, Orrville.
Total, 42.

PHYSICIANS NOT MEMBERS.

Bowen, Wm. Leonard, 10, State Board 11, Selma.
Burwell, Lincoln Laconia (col.), mc Leonard 89, State Board 89, Selma.
Gaston, Robert Bernard, mc Vanderbilt 12, State Board 16, Central Mills.
Moorer, John Wesley (col.), mc Meharry 99, cb Clarke 99, Selma.
Moseley, Elijah Buckle, mc univ Louisiana 57, cb 78, Boguchitto.
Walker, Nathaniel D., mc Leonard 13, State Board 15, Selma.
Total, 6.

Moved into the county—R. B. Gaston, first location to Central Mills; W. W. Burns, first location to Selma; P. B. Moss, from Mont-

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gomery to Selma; D. H. Doherty, from ..... to Selma; A. B. Pickering, from Plantersvlie to Selma; T. J. Ray, from Felix to Selma.

Moved out of the county—John T. Hosey, from Selma to Laurel, Miss.; T. J. Ray, from Selma to Riderwood, Choctaw county; Albert S. Riddle, to Oklahoma.

Died—W. H. Taylor, Central Mills, probably from heart disease.

DeKALB COUNTY MEDICAL SOCIETY—Greenville, 1895.

OFFICERS.

President, J. B. Phillips, Henegar; Vice-President, Claud D. Killian, Collbran, Route 1; Secretary, W. E. Quin, Fort Payne; Treasurer, W. E. Quin, Fort Payne; County Health Officer, W. S. Duff, Fort Payne; City Health Officer, C. W. Wright, Fort Payne. Censors—Olin May, Chairman, Fort Payne; M. T. Floyd, Valley Head, O. W. Clayton, Sylvania; H. P. McWhorter, Collinsville; W. S. Duff, Fort Payne.

NAMES OF MEMBERS, WITH THEIR COLLEGES AND POSTOFFICES.

Appleton, Thomas Hayne, mc Chattanooga 92, cb 92, Collinsville.
Black, John Hugh, mc Georgia Eclectic 93, cb 93, Crossville, R. F. D.
Casey, Martin Luther, mc Grant univ 01, cb Marshall 01, Fyffe.
Clayton, Olney Walker, mc Chattanooga 07, cb 07, Sylvania.
Davis, Manly Alford, mc Birmingham 11, State Board 11, Fort Payne.
Duff, William Sayers, mc Alabama 89, cb 90, Fort Payne.
Floyd, Milton Tucker, mc Montezuma univ 98, cb Lee 99, Valley Head.
Gaines, Jas. Thomas, mc Alabama 13, State Board 14, Crossville.
Hansard, William Simeon, mc Chattanooga 07, cb 07, Henegar, R. F. D.
Johnson, Curtis, mc univ Tennessee 11, State Board 11, Sylvania.
Killian, Claude Dallas, mc Birmingham 13, State Board 14, Collbran, R. F. D.
May, Olin, mc Chattanooga 94, Marshall 99, Fort Payne.
McWhorter, Horace Lamar, mc univ Alabama 13, State Board 13, Collinsville.
McWhorter, Horace Puckett, mc Vanderbilt 81, cb 85, Collinsville.

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Phillips, James Benager, mc univ Louisville 10, State Board 10, Henegar.

Quin, William Everett, mc Kentucky School Med. 81, cb 85, Fort Payne.

Warren, William Ernest, mc univ Alabama 05, cb 05, Fort Payne.

Weathington, Lee, mc univ Alabama 13, State Board 13, Crossville, Route 1.

Wheeler, Joseph Alexander, mc Birmingham 07, cb 07, Collinsville, Route 4.

Wilson, Dillmus Wesley, mc Chattanooga 00, cb Marshall 01, Fyffe.

Wright, Chas. Wesley, mc Alabama 93, cb 93, Fort Payne.

Wright, William Ira, mc Vanderbilt 90, cb 90, Dawson.

PHYSICIANS NOT MEMBERS.

Bailey, Alexander Henry, mc non-graduate, cb 89, Chavies.

Bogle, Joseph Hogue, mc Vanderbilt 00, cb 00, Collinsville.

Bush, George Volney, mc Atlanta Southern 90, cb Marshall 99, Pottersville.

Clayton, Archie Leonard, mc Chattanooga 05, cb 05, Dawson, R. F. D.

Green, Philmer Bruce, mc Vanderbilt 75, cb 85, Fort Payne.

Green, Wm. M., mc Vanderbilt 77, cb 77, Fort Payne.

Hall, John Decard, mc Atlanta Southern 92, cb 97, Chavies.

Harrison, Joseph J., mc Vanderbilt 93, cb 93, Crossville, R. F. D.

Hicks, Wm. P., mc Birmingham 13, State Board 14, Crossville.

Parris, Briggs, univ Tennessee 13, State Board 14, Painter.

Smith, Samuel Parish, mc Kentucky School Med. 88, cb 89, Crossville.

Winston, John Nelson, mc Louisville 66, cb 85, Valley Head.

Wyatt, J. J., mc non-graduate, cb 89, Crossville, Route 3.

Total, 13.

Moved into the county—M. A. Davis, from Pratt City to Fort Payne.

Moved out of the county—J. E. Busbee, from Fyffe to Jefferson county; A. L. Isbell, from Crossville to Marshall county.

Died—H. E. Killian.

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ELMORE COUNTY MEDICAL SOCIETY—Birmingham, 1877.

OFFICERS.

President, Jesse Gulledge, Tallassee; Vice-President, J. A. Howle, Eclectic; Secretary, J. M. Austin, Wetumpka; Treasurer, J. M. Austin, Wetumpka; County Health Officer, O. S. Justice, Central; City Health Officer, O. S. Justice, Wetumpka, Eclectic and Tallassee. Censors—Jesse Gulledge, Chairman, Tallassee; J. A. Howle, Eclectic; E. P. Moon, Wetumpka; I. R. Nix, Deatsville; W. M. Gamble, Wetumpa.

NAMES OF MEMBERS, WITH THEIR COLLEGES AND POSTOFFICES.

Austin, James Maxwell, mc univ Alabama 04, cb 04, Wetumpka.
Barnett, Clifford N. T., mc Alabama 05, cb Crenshaw 05, Deatsville.
Boswell, Franklin A., mc univ Alabama 00, cb Pike 00, Elmore.
Clark, William A., mc Alabama 14, State Board 14, Pine Barren, Fla.
Coker, R. L., mc Alabama 15, State Board 15, Tallassee.
Dark, Virgil, mc Tulane 11, State Board 12, Eclectic.
Gamble, William Melvin, mc Louisville 87, cb Jefferson 87, Wetumpka.
Gullidge, Jesse, mc univ Alabama 00, cb 00, Tallassee.
Harmon, James Samuel, mc Chattanooga 07, cb Elmore 07, Elmore.
Howle, James Augustus, mc Alabama 90, cb 90, Eclectic.
Huddleston, Robert Lee, mc univ Georgia 90, cb 90, Speigner.
Justice, Oscar Suttle, mc Alabama 85, cb 85, Central.
Lett, Edmond R., mc Louisville 05, cb 07, Tallassee.
Milner, Samuel R., mc Alabama 94, cb 97, Eclectic, R. F. D.
Moon, Eddie P., mc Vanderbilt 98, cb 98, Wetumpka.
Nix, Inge Ringold, ng. 67, cb 84, Deatsville.
Owsley, W. M., mc Alabama 14, State Board 14, Wetumpka.
Penton, John Randolph, mc Atlanta 14, State Board 15, Central.
Powell, Oscie C., mc Chattanooga 02, cb 03, Titus, R. F. D.
Ray, James W., mc Tulane 11, State Board 09, Wetumpka.
Sewell, Jabez Wesley, mc Alabama 90, cb 90, Titus.
Warren, T. DeWitt, mc Atlanta 09, State Board 10, Tallassee.
Weldon, Jos. Marion, mc Alabama 13, State Board 13, Tallassee.
Total, 23.

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HONORARY MEMBERS.

Beckett, William Francis, mc Atlanta 56, cb 94, Titus.
Cook, Conrad E., mc Tulane 73, State Board 95, Wetumpka, R. F. D.
Hanson, William Collins, mc Atlanta 81, cb Tallapoosa 89, Tallassee, R. F. D.
Total, 3.

PHYSICIANS NOT MEMBERS.

Lett, Harrison T., mc Louisville 76, cb 84, Eclectic, R. F. D.
Total, 1.

Moved out of the county—Solomon F. Jowers, from Robinson Springs to Tallapoosa county.

Died—E. H. Robinson, September, 1916, paralysis.

ESCAMBIA COUNTY MEDICAL SOCIETY—Greenville, 1886.

OFFICERS.

President, R. A. Smith, Brewton; Vice-President, Clarke Hill, Canoe; Secretary, M. H. Hagood, Brewton; Treasurer, M. H. Hagood, Brewton; County Health Officer, L. B. Farish, Brewton; City Health Officers, L. B. Farish, Brewton; N. L. Gachet, Pollard; F. L. Abernethy, Flomaton; J. P. McMurphy, Atmore. Censors—D. H. Finlay, Chairman, Pollard; L. B. Farish, Brewton; C. E. Sellers, McCullough, C. Hill, Canoe; A. P. Webb, Atmore.

NAMES OF MEMBERS, WITH THEIR COLLEGES AND POSTOFFICES.

Abernathy, William Lordin, mc Alabama 94, cb Monroe 94, Flomaton.
Abernethy, Floyd Lamar, mc Alabama 16, State Board 16, Flomaton.
Bozeman, Thomas C., mc Alabama 92, cb Covington 92, Dixie.
Chessher, John G., mc Grant univ 01, cb Covington 01, Falco.
Farish, Lawrence Buckner, mc Alabama 01, cb Monroe 01, Brewton.
Finlay, David Hume, mc Alabama 00, State Board 08, Pollard.
Gachet, Neece Lewis, mc univ Alabama 14, State Board 14, Pollard.
Hagood, Middleton Howard, mc Alabama 98, cb Lowndes 98, Brewton.

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Hill, Clark, mc Alabama 11, State Board 11, Canoe.
Martin, John Elisha, ng, cb Bullock 79, Brewton, R. F. D. No. 3.
Mason, Francis Henry, mc Alabama 91, cb Monroe 91, Brewton.
McMurphy, James Patrick, mc univ Alabama 06, cb Monroe 06, Atmore.
Peavy, Julius Franklin, mc Alabama 88, cb Washington 88, Atmore.
Philipp, Nathan R., mc univ South 01, cb 02, Local.
Rose, Joseph Everett, mc Alabama 09, State Board 09, Brewton.
Salley, Geo. William, mc Memphis Hosp. 03, cb Butler 03, Atmore.
Sellers, Clarence E., mc Alabama 04, cb Chilton 04, McCullough.
Shaw, Rowell W., mc Memphis Hosp. 00, cb Washington 00, Foshee.
Smith, Russell Aubrey, mc Alabama 00, cb Monroe 00, Brewton.
Stallworth, James Patrick, mc P. & S. Atlanta 07, cb 07, Canoe.
Tippin, Phillip Henry Mulcahy, mc univ Alabama 94, cb 94, Brewton.
Webb, Alfred Peellar, mc Alabama 96, cb Washington 97, Atmore.
Total, 22.

HONORARY MEMBER.

Smith, Price H., mc Alabama 94, cb Escambia 94, Dixonville.

PHYSICIANS NOT MEMBERS.

Smith, Price H., mc Alabama 94, cb Escambia 94, Brewton, R. 5.
Wiggins, Herbert (col.), mc univ Michigan 13, State Board 14, Brewton.
Total, 2.

Moved into the county—F. L. Abernethy, first location Flomaton; Thomas C. Bozeman, from Covington county to Dixie; R. W. Shaw, from ..... to Foshee.

Moved out of the county—N. E. Sellers, from Atmore to Anniston.

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ETOWAH COUNTY MEDICAL SOCIETY—Eufaula, 1878.

OFFICERS.

President, G. L. Faucett, Gadsden; Vice-President, I. C. Ballard, Gadsden; Secretary, M. P. Hughes, Gadsden; Treasurer, G. E. Silvey, Gadsden; County Health Officer, E. T. Camp, Gadsden; City Health Officers, C. L. Murphree, Gadsden; E. K. Hanby, Attalla; J. H. Ellison, Altoona; W. H. Acton, Alabama City. Censors—Jno. P. Stewart, Chairman, Attalla; H. V. Baskin, Murray Cross; H. L. Ison, Gadsden; J. M. Brown, Gadsden; E. S. Jones, Gadsden.

NAMES OF MEMBERS, WITH THEIR COLLEGES AND POSTOFFICES.

Acton, William H., mc Vanderbilt 88, cb Jefferson 88, Alabama City.
Anderson, William, mc Memphis Hosp. 06, State Board 05, Glencoe.
Appleton, Hugh Lounze, mc Vanderbilt 92, cb Cherokee 92, Gadsden.
Baker, David H., mc Vanderbilt 82, cb Macon 83, Gadsden.
Ballard, Ira C., mc Chattanooga 00, cb Cherokee 00, Gadsden.
Baskin, Herschell Virgil, mc Alabama 98, cb Cherokee 98, Murray Cross.
Bass, Herschel Winston, mc Johns Hopkins 06, State Board 06, Gadsden.
Brown, James M., mc Alabama 89, cb Montgomery 89, Gadsden.
Burns, Robt. A., mc Vanderbilt 01, cb Etowah 01, Alabama City.
Camp, Erasmus T., mc Alabama 85, cb Cleburne 85, Gadsden.
Cantrell, Wilson Turner, mc Kentucky 06, cb Marion 06, Alabama City.
Ellison, John Henry, mc univ of Tennessee 88, cb 89, Altoona.
Faucett, DeWitt, mc P. & S. Baltimore 09, State Board 09, Gadsden.
Faucett, Geo. L., mc P. & S. Baltimore, cb 03, Gadsden.
Ford, William F., mc Vanderbilt 94, cb 95, Hokes Bluff.
Gilliland, Henry Forny, mc Louisville 90, cb 90, Attalla, R. F. D. 1.
Greet, Thos. Young, mc Tulane 07, State Board 16, Gadsden.
Guice, Charles Lee, mc Grant univ 93, cb Dale 93, Gadsden.
Hanby, Elmus K., mc Birmingham 02, cb St. Clair 02, Attalla.
Hughes, Miles Preston, mc Vanderbilt 06, State Board 05, Gadsden.
Hurst, James A., mc Alabama 90, cb 91, Walnut Grove.
Ison, Hartford L., mc Southern Atlanta 91, Tallapoosa 91, Gadsden.
Jones, Eli Spear, mc Alabama 83, cb Jefferson 83, Gadsden.
Kilpatrick, Lewis A., mc Birmingham 09, State Board 09, Altoona.

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Landers, Franklin Pearce, mc Atlanta 82, cb 82, Gadsden.
Lawrence, Wm. John D., mc Vanderbilt 86, cb 86, Turkeytown (Gadsden, R. F. D.)
Leach, James E., mc univ Nashville 00, cb Blount 00, Gadsden.
Murphree, Claud L., mc Birmingham 02, cb 02, Gadsden.
Nicholson, L. B., mc Vanderbilt 15, State Board 17, Gadsden.
Ralls, Arthur W., mc P. & S. Atlanta 02, cb 02, Gadsden.
Samuels, Ira J., mc univ Nashville 08, State Board 14, Altoona.
Savage, Henry J., mc Tulane 01, cb Conecuh 02, Gadsden.
Shahan, John, mc Tulane 15, cb Etowah 15, Gadsden.
Silvey, Gordon E., mc univ Tennessee 10, State Board 10, Gadsden.
Stewart, John Pope, mc Alabama 85, cb 85, Attalla.
Stewart, Guy E., mc Alabama 04, cb 04, Attalla.
Total, 36.

PHYSICIANS NOT MEMBERS.

Coffey, George W. (col.), mc Howard 03, cb Lauderdale 06, Gadsden.
Dowdy, Edgar Lee, mc Nashville 77, cb 76, Keener.
Edwards, Wm. S., mc Kentucky 85, cb 85, Gadsden.
Hudson, Franklin N., mc univ Nashville 74, Old Law, Gadsden.
McBroom, Felix G. (col.), mc Meharry 05, cb Walker 04, Gadsden.
McConnell, Robert Franklin, mc Atlanta 81, cb St. Clair 81, Attalla.
Patterson, Jno. J., mc Ga. Eclectic 76, cb ....., Boaz, R. F. D.
Patton, Thos. J., mc Alabama 06, cb Greene 06, Oxford.
Plaine, Chas. L. (col.), mc Meharry 00, State Board 00, Gadsden.
Rowan, Walter Wm., mc Atlanta 15, State Board 15, Alabama City.
Simms, Albert G., mc univ Nashville 05, Talladega 05, Attalla.
Slack, Jno. C, mc Louisville 80, cb 80, Hokes Bluff.
Slaughter, Chas. J., mc Atlanta 81, cb 81, Boaz, R. F. D.
Snow, John Webster, mc Birmingham 09, State Board 09, Alabama City.
Total, 14.

Moved into the county—W. W. Rowan, from Marshall county to Alabama City; J. W. Snow, from Marshall county to Alabama City; J. C. Slack, from Oklahoma to Hokes Bluff; L. B. Nicholson, from DeKalb county to Gadsden; Albert G. Simms, from Ironaton to Attalla; T. J. Patton, from Greene county to Oxford.

Moved out of the county—Alexander McLeod, to Louisa, Virginia; D. T. Boozer, to Coal City; Wm. B. Johnson, to Birmingham; E. M. Sasville; J. J. Patterson.

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FAYETTE COUNTY MEDICAL SOCIETY—Selma, 1879.

OFFICERS.

President, T. M. Peters, Fayette; Secretary, J. D. Young, Fayette; Treasurer, J. D. Young, Fayette; County Health Officer, J. H. Ashcraft, Fayette. Censors—C. B. Blackburn, Chairman, Fayette; T. M. Peters, Fayette; J. F. Randolph, Fayette; J. D. Young, Fayette; J. H. Ashcraft, Fayette.

NAMES OF MEMBERS, WITH THEIR COLLEGES AND POSTOFFICES.

Ashcraft, J. Harvey, mc univ Alabama 05, cb Pickens 05, Fayette.
Ashcraft, Virgil Lee, univ Ala. 12, State Board 12, Kennedy, R. F. D. No. 2.
Blackburn, Carl Belton, mc univ Nashville 03, cb 03, Fayette.
Blakeney, A. Lanthus, mc Grant univ 07, cb Lamar 07, Newtonville.
Branyon, James Alexander, mc Louisville 92, cb Lamar 92, Fayette.
Collins, William Oscar, mc Grant univ 02, cb Winston 03, Berry.
Hollis, Jonathan Shelton, mc Alabama 89, cb Lamar 89, Covin.
Newton, Olin Everett, mc Birmingham 11, State Board 11, Belk.
Peters, Thomas Marion, mc Alabama 90, cb Fayette 90, Fayette.
Randolph, John Franklin, mc Memphis Hosp. 98, cb 99, Fayette.
Wright, David Hudson, mc Vanderbilt 08, cb 08, Berry.
Young, James Dapsie, mc Memphis Hosp. 94, cb Lamar 94, Fayette.
Total, 12.

PHYSICIANS NOT MEMBERS.

Harton, John Barkley, mc Memphis Hosp. 95, cb Lamar 95, Belk.
Hocut, Lucius Thornton, mc Atlanta 82, cb 82, Fayette, Route 4.
Olive, George W., mc Mobile 88, cb Tuscaloosa 83, Berry.
Roberts, John Monroe, mc Alabama 07, cb Lamar 07, Fayette, Rt. 2.
Smith, John Gardner, mc Alabama 89, cb Lamar 89, Bankston.
Weathers, Joseph T., mc univ Nashville 08, State Board 09, Bankston.
Total, 6.

Moved out of the county—W. W. Long, from Fayette to Company D, 4th Ala. Reg., Montgomery; J. C. Collins, from Berry to Oklahoma.

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FRANKLIN COUNTY MEDICAL SOCIETY—Tuscaloosa, 1887.

OFFICERS.

President, E. M. Harris, Russellville; Vice-President, T. J. Glasgow, Belgreen; Secretary, W. W. White, Russellville; Treasurer, W. W. White, Russellville; County Health Officer, W. A. Gresham, Russellville; City Health Officers, L. J. Graves, Russellville; Jas. R. Sherman, Phil Campbell; Jas. C. Moore, Hodges; J. A. Thorn, Vina; Jas. Copeland, Red Bay. Censors—E. M. Harris, Chairman, Russellville; O. O. Underwood, Spruce Pine; Jas. Copeland, Red Bay; W. J. Clark, Russellville; W. A. Gresham, Russellville.

NAMES OF MEMBERS, WITH THEIR COLLEGES AND POSTOFFICES.

Barnes, Thomas Benton, mc Memphis 74, cb 88, Spruce Pine.

Clark, Wm. J., mc Birmingham 95, cb 96, Russellville.

Cleere, Wm. Washington, mc univ Vanderbilt 82, cb 88, Russellville, R. F. D.

Copeland, James, mc univ Tennessee 90, cb 94, Red Bay.

Copeland, Oscar, mc univ Tennessee 82, cb Marion 88, Red Bay.

Farned, Abner, mc Memphis Hosp. 85, cb ....., Russellville, R. F. D.

Ford, Leonard Hugh, mc Chi. M. & S. 15, State Board 15, Phil Campbell.

Graves, Alonzo, mc Beaumont 99, cb Franklin 00, Russellville.

Graves, Thos. J., mc Birmingham 10, State Board 11, Belgreen.

Glasgow, Thomas Jefferson, mc univ Alabama 10, State Board 10, Belgreen.

Gresham, Walter Asa, mc Vanderbilt 00, cb 00, Russellville.

Harris, Elijah McCulloch, mc Vanderbilt 87, cb 87, Russellville.

Hughes, Thomas McCrary, mc Chattanooga 00, cb 06, Russellville.

Hughes, William Porter, mc Kentucky School Med. 96, cb 97, Russellville.

Moore, Jas. C., mc univ Nashville 00, cb Blount 00, Hodges.

Nabers, Wm. N., mc ...., cb ...., Red Bay.

Sherman, Jno. R., mc Chattanooga 97, cb Marshall 96, Phil Campbell.

Thorn, James Aaron, mc univ Alabama 03, cb Franklin 03, Vina.

Underwood, Andrew Jackson, ng, cb 02, Spruce Pine.

Underwood, Floyd R., mc Birmingham 12, State Board 12, Belgreen.

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Underwood, Nimrod Edgar, mc Chattanooga 00, cb 02, Belgreen.
Underwood, Nimrod T., mc Alabama 86, Russellville.
Underwood, Naoma Price, mc Chattanooga 06, cb 06, Phil Campbell.
Underwood, Oscar O., mc Chattanooga 04, cb 04, Phil Campbell.
Waldrep, Archie C., mc univ of Louisville 93, cb 93, Red Bay.
White, William Wyatt, ng, cb Marion 85, Russellville, Rt. 5.
Total, 26.

PHYSICIANS NOT MEMBERS.

Grambling, Jas. W., mc Alabama 01, cb 01, Leighton, Rt. 2.
Howell, Jas. M., mc Memphis Hosp. 04, cb 04, Vina.

Moved into the county—L. J. Graves, from Leighton to Russellville.
Moved out of the county—H. W. Howell, to Haleyville, Winston county; M. L. Stephens, to Kennedy, Miss.

GENEVA COUNTY MEDICAL SOCIETY—Montgomery, 1888.

OFFICERS.

President, F. W. Young, Hartford; Vice-President, H. C. Riley, Coffee Springs; Secretary, M. E. Doughty, Slocomb; Treasurer, M. E. Doughty, Slocomb; County Health Officer, R. L. Justice, Geneva; City Health Officers, T. J. Ward, Malvern, W. P. Chalker, Slocomb; C. B. Powell, Hartford; H. C. Riley; Coffee Springs; W. A. Eiland, Samson, L. L. Dismuke, Geneva; R. G. Shanks, Black. Censors—G. H. Herring, Chairman, Slocomb; A. E. Vaughn, Geneva; J. H. Holley, Samson; B. J. Lewis, Samson; G. W. Williamson, Hartford.

NAMES OF MEMBERS, WITH THEIR COLLEGES AND POSTOFFICES.

Beasley, James W., mc Alabama 96, cb Pike 96, Geneva.
Bedsole, James, mc Georgia Eclectic 06, cb 06, Hacoda.
Carter, J. P., ng., Old Law, Coffee Springs.
Chalker, Wm. Pounce, ng, 97, cb 97, Slocomb.
Chapman, Abner Richard, mc Vanderbilt 88, cb Coffee 88, Geneva.
Chapman, Charley Hick, mc Tulane 09, Stae Board 09, Geneva.
Dalton, Christopher C, mc Ga. Eclectic 90, cb 91, Slocomb.

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Dismukes, Lewis Leon, mc univ Tennessee 99, cb Pike 99, Geneva.
Doughty, Mordecai Edward, mc Grant univ 03, cb Walker 03, Slocomb.
Eiland, William Andrew, mc Atlanta Southern 81, cb Pike 84, Samson.
Herring, George H., mc Georgia Eclectic 98, cb 04, Slocomb.
Holley, John H., mc Alabama 98, cb 98, Samson.
Jay, John D., non-graduate, cb Geneva 88, Pera.
Justice, Robert Lee, mc Alabama 94, cb Pike 94, Geneva.
Lewis, Benj. Jefferson, mc Alabama 99, cb Coffee 99, Samson.
Malone, Eugene Y., mc Alabama 92, cb Escambia 92, Samson.
Matheny, William F., mc Atlanta 95, cb Coffee 97, Samson.
Merriweather, Frank V., mc Atlanta 08, State Board 08, Samson, R. F. D.
McGee, Moses A., mc Atlanta 98, cb Henry 06, Hartford, R. F. D.
Riley, Henry Clayton, mc Memphis Hosp. 03, cb Henry 08, Coffee Springs.
Powell, Charles B., mc Alabama 00, cb ..... 00, Hartford.
Rivenbark, Jackson J., mc Ga. Eclectic 97, cb 97, Samson.
Rivenbark, Oscar Lee, mc Georgia Eclectic 93, cb 00, Hartford.
Shute, Joseph Vinson, old law, cb 88, Hartford, R. F. D.
Sims, Horace James, mc univ Tennessee 06, cb Pike 06, Lowry.
Smith, Gordon W., mc Louisville 92, cb 92, Slocomb.
Smith, Henry Damon, mc univ Alabama 12, State Board 13, Malvern.
Smith, William W., mc Chattanooga 00, cb 03, Coffee Springs.
Tankersley, Ernest, mc Louisville 07, cb Crenshaw 07, Samson.
Tidmore, Dodson Wright, mc univ South 99, cb Hale 99, Black.
Vaughan, Angus Edwin, mc Louisville 05, cb Geneva 05, Geneva.
Ward, Thomas J., Old Law, cb 88, Malvern.
Williamson, George W., mc Alabama 93, cb Crenshaw 93, Hartford.
Young, Frank Walker, mc univ Alabama 12, State Board 12, Hartford.

Total, 34.

PHYSICIANS NOT MEMBERS.

Ard, Jas. H., ng, Old Law, cb 88, Geneva.
Bridges, Barnard T., mc univ Alabama 09, State Board 09, Black.
Fleming, Oscar H., mc Atlanta 94, cb 03, Coffee Springs,
Fleming, John C., mc Alabama 91, cb 95, Hartford.

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Sellers, Joel C., mc Vanderbilt 94, cb Crenshaw 94, Chancellor.
Total, 5.

Moved into the county—F. V. Merriweather, from Gantt to Samson; J. C. Sellers, from Enterprise to Chancellor; D. W. Tidmore, from Hale county to Black.

Moved out of the county—D. A. Bush, from Bellwood to .....; I. L. Johnston, from Samson to Hospital Corps with Army; R. G. Shanks, from Black to Autauga county.

GREENE COUNTY MEDICAL SOCIETY—Selma, 1879.

OFFICERS.

President, S. G. Hamilton, Knoxville; Vice-President, T. W. Smith, Union; Secretary, M. B. Cameron, Eutaw; Treasurer, M. B. Cameron, Eutaw; County Health Officer, T. M. Smith, Eutaw; City Health Officer, H. A. Griffith, Eutaw. Censors—M. B. Cameron, Chairman, Eutaw; S. G. Hamilton, Knoxville; W. H. Richardson, Lewiston; M. L. Malloy, Eutaw; A. P. Smith, Eutaw.

NAMES OF MEMBERS, WITH THEIR COLLEGES AND POSTOFFICES.

Cameron, Matthew Bunyan, mc Alabama 86, cb Sumter 86, Eutaw.
Griffith, Howard A., mc Birmingham 07, cb Jefferson 07, Eutaw.
Hamilton, Samuel Greene, mc univ Alabama 02, cb Elmore 02, Knoxville.
Malloy, Martin Luther, mc Alabama 99, cb Lee 99, Eutaw.
Moore, George Amos, mc Alabama 90, cb Wilcox 90, Eutaw.
Richardson, Wm. H., mc Vanderbilt 11, State Board 12, Lewiston.
Smith, Armand Pfister, mc Kentucky School Med. 75, cb 75, Eutaw.
Smith, Thomas McGifford, mc Kentucky School Med. 07, cb 07, Eutaw.
Smith, Thomas W., mc Ky. School of Med. 94, cb 94, Union.
Trice, Daniel Hall, Louisville 03, cb Choctaw 03, Boligee.
Total, 10.

PHYSICIANS NOT MEMBERS.

Klie, Henry B., mc Tulane 00, cb Marengo 00, Forkland.
Legare, Julian Keith, mc univ New York 86, cb 87, Forkland.

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Lucius, Richard S., mc P. & S. Atlanta 04, cb 04, Eutaw.
Starkey, Lake Louis, mc Birmingham 02, cb Jefferson 02, West Greene.
Taylor, Samuel P., mc Memphis Hosp. 03, cb 03, Union.
Thetford, Samuel Lewis, mc univ Virginia 99, cb 03, Boligee.
Total, 6.

Moved out of the county—T. J. Patton, from Knoxville to Oxford, Calhoun county.

HALE COUNTY MEDICAL SOCIETY—Montgomery, 1875.

OFFICERS.

President, C. K. Smith, Greensboro; Secretary, C. O. Poellnitz, Greensboro; Treasurer, C. A. Poellnitz, Greensboro; County Health Officer, C. A. Poellnitz, Greensboro; City Health Officer, C. K. Smith, Greensboro. Censors—T. P. Abernathy, Havana; C. A. Poellnitz, Greensboro; R. J. Griffin, Moundville; C. K. Smith, Greensboro.

NAMES OF MEMBERS, WITH THEIR COLLEGES AND POSTOFFICES.

Abernathy, Thomas Pinney, mc Memphis Hospital 99, cb 99, Havana.
Borden, James Pennington, mc Southern univ 75, cb 78, Greensboro.
Carson, Shelby Chadwick, mc Tulane 90, cb 79, Greensboro.
Dominick, John Robert Franklin, mc Augusta 71, cb 85, Greensboro.
Elliott, Benjamin F., mc Alabama 12, State Board 12, Moundville.
Griffin, Rufus Jackson, mc Alabama 90, cb 90, Moundville.
Jones, Isaac N., mc Birmingham 09, State Board 10, Newbern.
Poellnitz, Chas. A., mc Tulane 01, cb 01, Greensboro.
Smith, Clarence K., mc univ Alabama 09, State Board 09, Greensboro.
Staples, James Guin, mc univ Louisville 01, cb 01, Gallion.
Waites, Wm. Leslie, mc Birmingham 13, State Board 13, Akron.
Total, 11.

PHYSICIANS NOT MEMBERS.

Browder, Wm. M., mc Jefferson 88, cb 88, Gallion.
Davis, Andrew Russell, mc Sou. Atlanta 90, cb 90, Water Oak.

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Gewin, Wm. Christopher, mc Louisville 78, cb 78, Akron.
Spencer, George M., Old Law, cb 78, Greensboro, R. F. D.
Wylie, Jas. W. (col.), mc Illinois, ng, 05, Greensboro.
Young, Henry T., mc univ of the South 99, cb 99, Greensboro.
Total, 6.

Moved out of the county—D. W. Tidmore, to Geneva county; A. L. Nourse, from Sawyerville to Anniston.

Died—R. F. Monette, Greensboro.

HENRY COUNTY MEDICAL SOCIETY—Montgomery, 1883.

OFFICERS.

President—W. C. Vickers, Abbeville; Vice-President, L. A. Coleman, Abbeville; Secretary, L. S. Nichols, Abbeville; Treasurer, L. S. Nichols, Abbeville; County Health Officer, A. L. Whigham, Newville; City Health Officers, W. C. Vickers, Abbeville; L. R. Burdeshaw, Headland. Censors—L. T. Hutto, Chairman, Newville; W. A. Bird, Newville; W. C. Vickers, Abbeville; T. J. Floyd, Abbeville; L. R. Burdeshaw, Headland.

NAMES OF MEMBERS, WITH THEIR COLLEGES AND POSTOFFICES.

Bird, Willis Alonzo, mc Chattanooga 95, cb 01, Headland.
Burdeshaw, Lee Roy, mc Chattanooga 99, cb 99, Headland.
Burdeshaw, Shelby L., mc univ Nashville 08, State Board 08, Headland.
Coleman, Levy Atticus, mc univ Alabama 12, State Board 13, Abbeville.
Floyd, Thomas J., mc Tulane 07, cb Houston 07, Abbeville.
Hutto, Littleton Thomas, mc univ Alabama 03, cb 03, Newville.
Nichols, Lucius Sherman, mc Alabama 97, cb 97, Abbeville.
Scott, Marcus, T. C. mc Birmingham 97, cb 97, Headland.
Scott, Marvin, mc Birmingham 05, cb 05, Headland.
Vann, James Robert, mc Alabama 99, cb 00, Abbeville, Route 1.
Vickers, William Chas., mc Tulane 08, State Board 08, Abbeville.
Whigham, Arthur Lee, univ Alabama 10, State Board 11, Newville.
Wood, Gordon L., mc univ Alabama 10, State Board 11, Haleburg.
Total, 13.

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PHYSICIANS NOT MEMBERS.

Blacklidge, John Richard, mc Alabama 89, cb 91, Abbeville.
Long, James B., mc Louisville 82, cb 83, Abbeville.
McElwin, E. G., ng, Haleburg.
Steagall, Albert Sidney, mc Alabama 88, cb Dale 88, Abbeville.
Total, 4.

Moved into the county—L. A. Coleman, from Clayton, R. F. D., Barbour county, to Abbeville.

Moved out of the county—Walter Scott, from Newville to Dale county, Ozark, Route 6.

HOUSTON COUNTY MEDICAL SOCIETY—Talladega, 1903.

OFFICERS.

President, E. F. Moody, Dothan; Vice-President, T. M. Barnett, Dothan; Secretary, M. S. Davie, Dothan; Treasurer, C. W. Hilliard, Dothan; County Health Officer, F. S. Twitty, Columbia; City Health Officers, T. M. Barnett, Dothan; J. F. Yarbrough, Columbia; J. E. Stokes, Ashford; L. H. Hilson, Webb; B. C. Chalker, Cottonwood. Censors—E. F. Moody, Chairman, Dothan; L. Hilson, Webb; M. L. Cummings, Ashford; D. M. Hicks, Dothan, Route 3; M. S. Davie, Dothan.

NAMES OF MEMBERS, WITH THEIR COLLEGES AND POSTOFFICES.

Andress, David G., mc Chattanooga 04, cb Cullman 04, Madrid.
Atkeson, Clarence L. C., mc P. & S. Baltimore 84, cb Lee 86, Columbia.
Bates, Irby Clyde, mc univ Alabama 11, State Board 11, Taylor.
Barnett, Thomas M., mc Vanderbilt 99, cb Chilton 9, Dothan.
Box, Chester C., mc Tulane 09, State Board 10, Ashford.
Carlisle, Samuel Oscar, mc Vanderbilt 94, cb Pike 94, Dothan.
Chalker, Benjamin C., mc Georgia Eclectic 97, cb Geneva 97, Cottonwood.
Chaudron, Percy O., mc univ Alabama 11, State Board 11, Dothan.
Cummins, Manley L., mc univ Alabama 06, cb Pickens 06, Ashford.
Davie, Mercer Stillwell, mc Tulane 99, cb Bibb 99, Dothan.

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Ellis, James Lewis, mc Memphis Hosp. 86, cb Dale 86, Dothan.
Flowers, James H., mc univ Baylor 05, cb 06, Newton, R. F. D.
Fowler, James Thos., mc South Carolina 83, cb Henry 83, Newton, R. F. D.
Frasier, Alfred Smith, mc Vanderbilt 06, cb Elmore 06, Dothan.
Granger, Frank G., mc P. & S. Atlanta 12, State Board 12, Webb.
Green, Henry, mc Alabama 92, cb Conecuh 92, Dothan.
Hammond, George Abner, mc Baltimore 84, cb Henry 84, Dothan.
Hicks, Dorman Marvin, mc univ Louisville 06, Pike 06, Dothan, R. F. D. 3.
Hilliard, Chas. Wesley, mc Alabama 95, cb Pike 95, Dothan.
Hilson, Lewis, mc P. & S. Atlanta 09, State Board 09, Webb.
Holland, Sterling Price, mc Tulane 08, State Board 06, Columbia.
Hopkins, Percy Isaiah, mc Vanderbilt 99, cb Bibb 99, Dothan.
Howell, William Crawford, mc P. & S. Atlanta 08, State Board 07, Dothan.
Middlebrooks, Wm. T., mc Alabama 86, cb Barbour 86, Dothan.
Moody, Earle F., mc Tulane 03, State Board 03, Dothan.
Mooty, Ross Heflin, mc univ Alabama 11, State Board, 11, Columbia.
Page, Woodfin Grady, mc Vanderbilt 15, State Board 15, Dothan.
Ryals, Wm. Mann, mc Atlanta 87, cb Henry 95, Cowarts.
Sandlin, E. G., mc Vanderbilt 07, State Board 06, Pansey.
Smisson, Henry J., mc South Carolina 60, cb Dale 86, Dothan.
Stokes, J. Eldridge, mc Georgia Eclectic 92, cb Henry 97, Ashford.
Stough, Marvin S., mc P. & S. Atlanta 99, State Board 99, Dothan.
Stovall, John Henry, mc Atlanta 59, cb Henry 89, Columbia.
Taylor, Thos. F., mc Alabama 04, Macon 04, Dothan.
Twitty, Frank S., mc Baltimore 93, cb Henry 94, Columbia.
Vaughn, David Horatio, mc Atlanta 88, cb Henry 89, Gordon.
Williams, Wm. Henry, mc Memphis Hosp. 91, cb Henry 91, Dothan.
Yarbrough, John Fletcher, mc Atlanta 92, cb Henry 92, Columbia.
Total, 38.

PHYSICIANS NOT MEMBERS.

Grimes, R. L. (col.), mc Leonard 05, cb Barbour 06, Dothan.
Pate, Walter Eugene, mc Atlanta 93, cb 93, Ashford.
Total, 2.

Moved into the county—P. I. Hopkins, from Chilton county to Dothan; Thos. F. Taylor, from Florida to Dothan.

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JACKSON COUNTY MEDICAL SOCIETY—Mobile, 1882.

OFFICERS.

President, Hugh Boyd, Scottsboro; Vice-President, C. D. Mason, Scottsboro; Secretary, Edward Boyd, Scottsboro; Treasurer, Edward Boyd, Scottsboro; County Health Officer, W. C. Maples, Scottsboro; City Health Officers, W. C. Maples, Scottsboro; J. W. Boggess, Bridgeport; G. W. Foster, Stevenson; G. B. Tate, Fackler; M. M. Duncan, Paint Rock; A. S. Zimmerman, Larkinsville; E. R. Smith, Section. Censors—W. C. Maples, Chairman, Scottsboro; Hugh Boyd, Scottsboro; J. L. Prince, Stevenson; J. W. Boggess, Bridgeport; G. W. Foster, Stevenson.

NAMES OF MEMBERS, WITH THEIR COLLEGES AND POSTOFFICES.

Blakemore, Andrew Newton, mc univ Tennessee 80, cb 82, Scottsboro.
Bogart, Wm. M., mc Vanderbilt 00, cb 00, Stevenson.
Boggess, John W., mc Vanderbilt 92, cb Marshall 93, Bridgeport.
Boyd, Edward, mc Memphis Hosp. 02, cb 02, Scottsboro.
Boyd, Hugh, mc Memphis Hosp. 99, cb 99, Scottsboro.
Bridges, Robert Russell, mc Vanderbilt 13, State Board 14, Scottsboro.
Duncan, Maurice M., mc Alabama 14, State Board 14, Paint Rock.
Foster, Geo. Winfield, univ Vanderbilt 82, cb 82, Stevenson.
Gentry, Jas. A., mc univ Alabama 05, State Board 05, Stevenson.
Hartung, Carl F., Jr., mc Grant univ 06, cb Cullman 06, Bridgeport.
Hodges, Rayford, mc Alabama 15, State Board 15, Woodville.
Maples, Wm. Caswell, mc univ Tennessee 81, cb Madison 81, Scottsboro.
Mason, Chas. D., mc Alabama 14, State Board 14, Scottsboro.
Prince, Jesse Lee, mc univ Alabama 99, cb 99, Stevenson.
Robinson, Wm. Henry, mc univ Alabama 08, State Board 08, Princeton.
Rosser, Walter W., mc Vanderbilt 98, cb 99, Bass Station.
Sentell, J. H., mc univ Tenn. 04, cb 06, Swaim.
Smith, Eugene Robinett, mc univ Nashville 67, cb 89, Section.
Tate, George Berry, mc univ Tennessee 94, cb Marshall 95, Tate.
Vandiver, Horace Greely, mc Vanderbilt 15, State Board 15, Trenton.
Zimmerman, Albert S., univ South 97, cb Lawrence 99, Larkinsville.
Total, 21.

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PHYSICIANS NOT MEMBERS.

Burnham, Sidney J., mc Alabama 87, cb St. Clair 87, Langston.
Gattis, Henry Franklin, ng, cb 82, Aspel.
McClendon, Wm. LaFayette, mc Alabama 94, cb 94, Hollywood.
McCord, Jno. Harvey, ng, cb 82, Scottsboro.
McGahey, Joseph Jefferson, ng, cb Marshall 86, Woodville.
Nye, George Earl, mc Grant 06, cb Marshall 06, Hollywood.
Puckett, Robert H., mc Birmingham 07, cb St. Clair 07, Section.
Sanders, Walter C., mc Memphis Hosp. 90, Madison 91, Stevenson.
Total, 8.

Died—Geo. T. Hayes, June 8, 1916, age 64.

JEFFERSON COUNTY MEDICAL SOCIETY—Birmingham, 1877.

OFFICERS.

President, Cabot Lull, Birmingham; Vice-President, F. W. McDonald, Wylam; Secretary, Gaston W. Rogers, Birmingham; Treasurer, Gaston W. Rogers, Birmingham; County Health Officer, F. E. Harrington, Birmingham; City Health Officers, F. E. Harrington, Birmingham; J. M. Lowrey, Assistant City Health Officer for Birmingham. Censors—Thos. D. Parke, Chairman, Birmingham; D. F. Talley, Birmingham; W. P. McAdory, Birmingham; H. S. Ward, Birmingham; E. M. Mason, Birmingham.

NAMES OF MEMBERS, WITH THEIR COLLEGES AND POSTOFFICES.

Anthony, J. C., mc Birmingham 09, State Board 09, Birmingham.
Ashworth, Robert F., mc Louisville Hospital 03, State Board 03, Birmingham. (Army.)
Atwood, Abner Lowe, mc univ Nashville 07, cb Franklin 07, Birmingham.
Bagley, James A., mc Birmingham 03, State Board 03, Birmingham.
Bancroft, Joseph Dozier, mc Vanderbilt 94, cb Sumter 94, East Lake.
Bandy, Edwin C., mc Montezuma 98, cb Shelby 98, Birmingham.
Barclay, John Wyeth, mc Jefferson 70, cb Madison 78, Birmingham.
Barrett, Nathaniel A., mc univ Nashville 85, cb Lauderdale 86, East Lake.

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Bean, J. Robbins, mc univ Pennsylvania 11, State Board 17, Birmingham.

Beck, Wm. R. K., mc Birmingham 14, State Board 14, Birmingham.

Beddow, William Henry, mc Tulane 15, State Board 15, Birmingham.

Bell, Alse Wilson, mc Alabama 97, cb Shelby 97, Woodlawn, Birmingham.

Bell, Walter H., mc Atlanta 88, cb Calhoun 88, Brookside.

Benedict, Samuel R., mc univ Col. of Med. Richmond 08, State Board 13, Birmingham.

Berry, Wm. Thompson, mc Vanderbilt 99, cb 99, Birmingham.

Black, John W., mc Birmingham 09, State Board 10, Ensley.

Blackwell, James Hubert, mc Birmingham 06, cb Bibb 06, North Birmingham.

Blair, Frank F., mc Tulane 05, State Board 04, Flat Top.

Blue, James Howard, mc univ Alabama 13, State Board 13, Bessemer.

Board, Oliver Paxton, mc Louisville 03, cb Hale 03, Birmingham.

Bobo, Arlington Henry, mc Birmingham 11, State Board 11, Irondale.

Boxer, Henry, mc Louisvile 10, State Board 10, Birmingham.

Brown, George Washington, mc Atlanta 77, cb 78, Pratt City, Birmingham.

Brownlee, Leslie George, mc univ Oklahoma 12, State Board 16, Birmingham.

Burnum, Henry Clay, mc P. & S. Baltimore 92, cb Blount 92, Trussville.

Burns, Wm. Arthur, mc Memphis 91, cb Lamar 91, Birmingham.

Caffee, Sam'l Richmond, mc Missouri Med. 81, cb Tuscaloosa 81, Avondale.

Callen, Wm. Russell, mc Tulane 03, cb 03, Birmingham.

Callaway, John T., mc Birmingham 11, State Board 11, Birmingham.

Cameron, Andrew Crozier, mc univ Penn. 04, cb 04, Birmingham.

Carmichael, Wm, M, mc univ Nashville, ng, State Board 07, Fairfield.

Carmichael, Josiah N., mc Birmingham 13, State Board 13, Fairfield, Birmingham.

Carroway, Chas. Newton, mc Birmingham 02, cb 02, Pratt City.

Casey, Edgeworth Stephens, mc Birmingham 00, cb 00, Birmingham.

Casey, Thaddeus Alonzo, mc Vanderbilt 91, cb 91, Birmingham.

Chamblee, Zachariah Britton, mc Birmingham 00, cb 00, North Birmingham.

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Cheatham, Thos. Alfred, mc Jefferson 09, State Board 10, Lewisburg.
Clements, Merit D., mc Tulane 12, State Board 12, Ensley.
Cloud, Robert Emmett, mc Tulane 10, State Board 09, Ensley.
Clark, Nathaniel Guido, mc Birmingham 98, cb 98, Ensley.
Cocke, Norborne Page, mc univ Virginia 00, cb 04, Birmingham.
Cocke, Paul Lee, mc univ Virginia 99, cb 03, Birmingham.
Coleman, Grover C., mc univ Alabama 11, State Board 12, Ishkooda Mines, Birmingham.
Collins, Jas. Alexander, mc Louisville 91, cb Cullman, 91, Woodlawn, Birmingham.
Comer, Robt. T., mc Johns Hopkins 01, cb Bullock 01, Birmingham.
Compton, Felix Henry, mc Vanderbilt 80, cb Madison 87, Bessemer
Compton, Wheeler Wilkinson, mc Vanderbilt 03, cb 03, Bessemer.
Constantine, Kosciusko Walker, mc Johns Hopkins 05, cb 05, Birmingham.
Conwell, Hugh Earl, mc Birmingham 15, State Board 15, Bessemer, Route 2.
Conwell, Thos. Isaac, mc univ Nashville 03, cb Walker 04, Bessemer
Cooper, Julius Burson, mc Grant univ 04, cb Cullman 04, Birmingham.
Copeland, Miles A., mc Birmingham 03, cb 03, Birmingham.
Coston, Hamilton Ralls, mc Vanderbilt 89, cb 01, Birmingham.
Coulbourn, Joseph Thos., mc univ Maryland 86, State Board 86, Birmingham.
Cowan, Alvin E., mc Birmingham 12, State Board 12, Ensley, Birmingham.
Crelly, Harry C., mc Alabama 02, cb Washington 02, Birmingham.
Cunningham, Russell McWhorter, mc Bellview 79, cb 82, Birmingham.
Dabney, Marye Y., mc Johns Hopkins 12, State Board 12, Birmingham.
Dabney, Wm. Cecil, mc univ Virginia 09, State Board 10, Birmingham.
Daly, Edgar Wm., mc Tulane 08, State Board 10, Birmingham.
Davis, John Daniel Sinkler, mc Georgia 79, cb St. Clair 79, Birmingham.
Davidson, Marion Tabb, mc univ Cincinnati 11, State Board 12, Wylam.
Dawkins, James T., mc univ Alabama 09, State Board 09, Mulga.
Dawson, Jas. Robertson, mc Vanderbilt 03, cb 03, Birmingham.

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Denson, Fred Hammond, mc Birmingham 12, State Board 13, Bessemer, R. F. D. No. 2.

Dickson, John D., mc Western Reserve 13, State Board 15, Birmingham.

Donald, Thomas C., mc Alabama univ 97, cb Butler 97, Bessemer.

Donald, Dan Caldwell, mc Tulane 09, State Board 11, Birmingham.

Donehoo, John Henry, mc Memphis Hosp. 99, cb Pickens 05, Birmingham.

Donnelly, Chas. Augustus, mc Ohio 08, State Board 10, Birmingham.

Dowling, Judson Davie, mc Birmingham 11, State Board 11, Birmingham.

Douglass, John, mc Birmingham 00, cb Lauderdale 01, Birmingham.

Douglass, Albert Gallatin, mc Vanderbilt 81, cb 81, Birmingham.

Drake, Chas. Hunter, mc Tulane 06, cb 06, Birmingham.

Drennen, Wesley Earle, mc P. & S. New York 06, State Board 05, Birmingham.

Duncan, Joseph Johnston, mc Louisville 86, State Board 86, Birmingham.

Edmonson, John H., mc Tulane 04, cb 04, Birmingham.

Edwards, Jesse E. H , mc univ Nashville 08, State Board 12, Mulga.

Elkourie, Haickel A., mc univ Nashville 01, cb 06, Woodlawn, Birmingham.

Farrar, Wm. Chas., mc Birmingham 98, Sate Board 98, Woodlawn, Birmingham.

Ferrell, Jas. Henry, mc Birmingham 01, cb Calhoun 01, Woodlawn, Birmingham.

Fields, Elbert T., mc Bellevue 99, cb 99, Ensley.

Fonville, Wm. Drakeford, mc Tulane 05, cb Wilcox 05, Ensley, Birmingham.

Fox, Bertram Arthur, mc Birmingham 96, cb 96, Birmingham.

Fox, Carl Alexander, mc Tulane 00, cb 00, Birmingham.

Ferguson, Burr, mc P. & S. New York 96, State Board 13, Fairfield, Birmingham.

Garber, James R., mc Jefferson 13, State Board 13, Birmingham.

Garrison, John Earl, mc Birmingham 04, cb Walker 04, Birmingham.

Gaston, Andrew L., mc univ Alabama 10, State Board 10, Ensley, Birmingham.

Gaston, Cecil D., mc Jefferson 10, State Board 10, Birmingham.

Gaines, Cecil Dean, mc Birmingham 11, State Board 11, Pratt City, Birmingham.

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Gewin, Wm. Christopher, mc univ Maryland 00, cb Lowndes 02, Birmingham.

Glasgow, Marvin Whitfield, mc Vanderbilt 01, cb Shelby 01, Ensley, Birmingham.

Glassgow, Roberts, mc univ South 00, cb Shelby 00, Adamsville.

Glass, Edward Taylor, mc Vanderbilt 90, cb 90, Birmingham.

Gnasso, Enrico R., mc Birmingham 13, State Board 13, Ensley, Birmingham.

Godwin, Wm. Henry, mc univ Alabama 09, State Board 09, Republic.

Grace, Frank G., mc N. W. univ 02, State Board 03, Birmingham.

Green, Anderson C., mc Birmingham 14, State Board 14, Birmingham.

Green, Elbert Paul, mc Birmingham 11, State Board 12, Republic.

Gresham, Andrew Belton, mc Birmingham 01, cb Winston 01, Watson.

Gwin, Paul E., mc Tulane 06, cb 06, Dolomite.

Hamrick, Robert Hampton, mc Atlanta 95, cb Blount 96, Birmingham.

Hanna, Henry P., mc Birmingham 12, State Board 13, Birmingham.

Hardy, Walter B., mc Tulane 12, State Board 12, Birmingham.

Harris, Arthur Buckner, mc univ Virginia 02, cb 03, Birmingham.

Harris, Carl Aticus, mc Alabama 10, State Board 11, Bessemer.

Harris, Charlton S., mc Birmingham 14, State Board 14, Birmingham.

Harris, Farley W., mc Birmingham 09, State Board 10, Birmingham.

Harris, Herbert A., mc Birmingham 14, State Board 14, Ensley.

Harris, Seale, mc univ Virginia 94, State Board 94, Birmingham.

Harrison, Wm. Groce, mc univ Maryland 92, cb Talladega 92, Birmingham.

Heacock, Joseph Davis, mc Tulane 92, cb 92, Birmingham.

Head, Walter C., mc Birmingham 01, cb Bibb 01, Johns.

Heath, Geo. D., Jr., mc univ Louisville 07, State Board 16. ——.

Heath, Merritt J., mc Birmingham Medical 13, State Board 13, Ensley

Heflin, Howell Towles, mc univ Maryland 93, cb Clay 94, Birmingham.

Heflin, Wyatt, mc Jefferson 84, cb Randolph 85, Birmingham.

Hogan, Edgar Poe, mc Birmingham 09, State Board 08, Birmingham.

Hogan, Geo. Archibald, mc Birmingham 96, cb 96, Birmingham.

Hogan, John Frank, mc Birmingham 03, cb 03, Birmingham.

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Hogan, Robert Elias. mc Birmingham 01, cb Bibb 01, Ensley.

Hubbard, Lex Walter, mc Jefferson 11, State Board 14, Birmingham, R. F. D. 6, Box 63.

Hubbard, Wilder D., mc P. & S. Chicago 95, State Board 14, Thomas, Birmingham.

Huey, J. F., mc Baltimore P. & S. 87, cb 87, Alton.

Jackson, Leonidas Fenton, mc Birmingham 01, cb Fayette 01, Blossburg.

Jackson, Rufus, mc univ Louisville 08, State Board 14, Birmingham.

Jenkins, Luckey Andrew, mc Alabama 89, cb Wilcox 89, North Birmingham.

Johnson, Roy Ernest, mc Vanderbilt 09, State Board 09, Ensley.

Johnston, Noah A., mc univ Nashville 07, State Board 07, Bessemer, Route 2.

Johnston, Hardee, mc univ Virginia 95, cb 96, Birmingham.

Jones, Capers Capeart, mc univ M. & S. Philadelphia 70, cb Wilcox 79, East Lake, Birmingham.

Jones, Devotie Dennis, mc univ Maryland 72, cb Lowndes 72, Woodlawn, Birmingham.

Jordan, Wm. Mudd, mc P. & S. New York 95, cb 95, Birmingham.

Jordan, Mortimer Harvie, mc Tulane 07, cb 07, Birmingham.

Kent, John Thomas, mc Alabama 95, cb Coosa 95, Birmingham.

Kirsch, Maxwell, mc Tulane 12, State Board 12, Birmingham.

Knowlton, James Wiley, mc Vanderbilt 83, cb Jackson 83, Birmingham.

Kyser, Philip M., mc Vanderbilt 10, State Board 09, Birmingham.

Lacey, Edward Parish, mc Vanderbilt 83, cb Shelby 83, Bessemer.

Ledbetter, Samuel Leonidas, mc Louisville 79, cb 79, Birmingham.

Ledbetter, Samuel L., Jr., mc Johns Hopkins 10, State Board 10, Birmingham.

Leland, Joseph, mc Tulane 04, cb Tuscaloosa 04, Birmingham.

Lewis, Thos. Knight, mc Vanderbilt 12, State Board 13, West End, Birmingham.

Lester, Belford S., mc Vanderbilt 07, State Board 08, Birmingham.

Levy, Harry, mc P. & S. New York 05, cb 05, Birmingham.

Little, Edwin Gray, mc Birmingham 05, State Board 05, Sayre.

Lotterhos, George, mc univ Pennsylvania 10, State Board 13, Birmingham.

Love, John T., mc Alabama 00, cb Morgan 00, Pinson.

Love, Wm. Jones, mc Alabama 93, cb Morgan 93, Birmingham.

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Lovelady, Robt. G., mc Birmingham 14, State Board 15, Ensley.

Lowrey, John McPherson, P. & S., Baltimore 97, cb 02, Birmingham.

Lull, Cabot, mc univ Michigan 99, cb Elmore 01, Birmingham.

Lupton, Frank Allemang, mc Johns Hopkins 99, cb 00, Birmingham.

McAdory, Wellington Prude, mc univ Virginia 97, cb 99, Birmingham.

McCarn, Oscar C., mc Birmingham 07, cb 07, Warrior.

McDonald, Frederick Wm., mc Birmingham 05, cb Tuscaloosa 06, Wylam.

McDonald, Chas. W., mc univ Nashville 04, State Board 04, Woodward.

McGahey, Robt. Goodloe, mc Birmingham 12, State Board 12, West End, Birmingham.

McGehee, Henry T., mc Alabama 04, cb Tuscaloosa 04, Oxmoor.

McKinnon, Hector A., mc Birmingham 10, State Board 10, Birmingham.

McLean. Claude Cooper, mc Vanderbilt 08, State Board 08, Birmingham.

McLester, Jas. Somerville, mc univ Virginia 99, cb 02, Birmingham.

McQueen, Jos. Pickens, mc Tulane 11, State Board 12, Maben.

McQuiddy, Robt. Clayton, mc Birmingham 12, State Board 13, Birmingham.

Mann, Sidney Henry, mc Birmingham 01, cb Elmore 01, Ensley, Birmingham.

Magruder, Thos. V., mc Tulane 10, State Board 11, Birmingham.

Martin, Hezekiah Levin, mc Vanderbilt 81, cb Madison 81, Avondale.

Martin, Wade A., mc Birmingham 08, State Board 10, Birmingham.

Mason, E. Marvin, mc Johns Hopkins 06, State Board 07, Birmingham.

Mason, James Monroe, mc Tulane 99, cb 99, Birmingham.

May, Eugene Elmore, mc univ Nashville 00, cb Lauderdale 01, Birmingham

Meadows, Jarvis A., mc Alabama 12, State Board 12, Birmingham.

Meyer, Jerome, mc Johns Hopkins 14, State Board 17, Birmingham.

Michlin, Irwin, mc Birmingham 15, State Board 15, Birmingham.

Miller, James A., mc Chi. M. & S. 13, State Board 13, Edgewater.

Mitchell, Henry Eugene, mc univ Tennessee 93, cb Blount 93, Birmingham.

Mitchell, John Ira, mc Birmingham 12, State Board 13, Leeds.

Moon, John Weldon, mc univ Nashville 05, cb Limestone 05, Birmingham.

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Moore, Chalmers, mc Johns Hopkins 13, State Board 14, Birmingham.
Moore, David S., Jr., mc Birmingham 08, cb 08, Birmingham.
Moore, John Alston, mc P. & S. Baltimore 85, cb Blount 85, Birmingham.
Moore, Joseph G., mc Birmingham 11, State Board 12, Birmingham.
Morland, Marvin Erastus, mc univ Kentucky 03, cb Hale 03, North Birmingham.
Morris, Lewis Coleman, mc univ Virginia 92, cb 93, Birmingham.
Murphy, Grover E., mc Birmingham 11, State Board 11, Birmingham.
Nabers, Frank Edmondson, mc univ Virginia 03, cb 03, Birmingham.
Nabers, Sam'l F., mc Tulane 09, State Board 08, Birmingham.
Nash, Sam F., mc Birmingham 08, State Board 08, Bessemer.
Nelson, Robert, mc Birmingham 05, cb 05, Birmingham.
Nice, Chas. McKinney, mc univ Pennsylvania 04, cb 05, Birmingham.
Noland, Lloyd, mc Baltimore Med. 03, U. S. Service 13, Birmingham.
Nolan, Michael M., mc Jefferson 12, State Board 13, Birmingham.
Norton, Ethelbert M., mc Vanderbilt 14, State Board 15, Birmingham.
Norton, James S., mc Vanderbilt 08, State Board 08, Sayreton.
O'Connell, Edward mc Bellvue 07, State Board 09, Birmingham.
O'Connell, George Albert, mc Tulane 06, State Board 07, Birmingham. (Army.)
Parke, Thos. Duke, mc univ New York 79, cb Dallas 84, Birmingham.
Payne, Brack Coleman, mc Alabama 16, State Board 16, New Castle.
Payne, Edmund C., mc univ Virginia 11, State Board 11, New Castle.
Payne, Frank M., mc univ Virginia 11, State Board 11, New Castle.
Pearce, Hill Everett, mc Birmingham 08, State Board 08, Boyles
Peebles, Robert Emory, mc Tulane 08, State Board 08, Birmingham.
Peters, Urban Joseph Whitehead, mc univ Pennsylvania 98, cb 00, Birmingham.
Powell, H. B., mc Alabama 10, State Board 10, Bessemer.
Powers, Thos., mc Louisville 03, cb Hale 03, Coalburg.
Prescot, Wm. Ernest, mc Birmingham 00, cb Chilton 00, East Lake, Birmingham.
Prince, Edmond Mortimer, mc Alabama 01, cb Bibb 01, Birmingham.
Pruitt, Elihu Posey, mc P. & S. Atlanta 05, cb Lowndes 05, Morris.
Ragsdale, M. Clay, Jr., mc univ Nashville 05, State Board 06, Bessemer.
Ransom, Wm. Walter, mc Vanderbilt 88, cb 88, Birmingham.
Reeves, Philip Ulmer, mc univ Georgia 01, cb Walker 02, North Birmingham.

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Reid, Albert Martin, mc univ of Nashville 01, State Board 07, Birmingham.

Reynolds, Frederick Knox, mc Birmingham 01, cb 01, Birmingham.

Riggs, Edward Powell, mc P. & S. Baltimore 81, cb Dallas 81, Birmingham.

Rittenberry, Crockett Campbell, mc Birmingham, ng, cb 01, Birmingham.

Robbins, Jesse Elbert, mc Atlanta 86, cb 86, Littleton.

Robbins, Wm. J., mc P. & S. Atlanta 12, State Board 13, Docena.

Robinson, Annie M., mc Woman's Med. of Pennsylvania 05, cb 07, Birmingham.

Robinson, Elisha Miller, mc Vanderbilt 85, cb Blount 86, Birmingham.

Robinson, Thos. Franklin, mc univ Nashville 80, cb Blount 80, Bessemer.

Rogers, Mack, mc Alabama 89, cb Conecuh 89, Birmingham.

Rogers, Gaston Wilder, mc Birmingham 11, State Board 11, Birmingham.

Rosamond, Ethbert Cole, mc Louisville 92, cb Walker 93, N. Birmingham.

Rosser, Henry Noller, mc Atlanta 69, cb Dallas 79, Birmingham

Roundtree, Walter Scott, mc Birmingham 00, cb Morgan 00, Wylam.

Rucker, Edmund W., Jr., mc Denver 04, State Board 08, Birmingham.

Rudulph, Chas. Murray, mc Alabama 00, cb Lowndes 00, Birmingham.

Rush, Richard Cox., mc univ Alabama 15, State Board 15, Bessemer. (Army.)

Schoolar, Milton Carson, mc Alabama 87, cb Bibb 87, West End.

Scott, E. Laurence, mc univ Maryland 06, cb 07, Birmingham.

Scott, Walter F., mc univ Virginia 04, cb 07, Birmingham.

Scott, Edgar Marvin, mc Alabama 01, cb Walker 01, Avondale, Birmingham.

Seay, James Elias, mc Bellvue 99, cb Lamar 99, Birmingham.

Seay, Samuel Cleveland, mc Jefferson 08, State Board 08, Pratt City, Birmingham.

Sellers, Henry Graham, mc Vanderbilt 00, cb Morgan 00, West End, Birmingham.

Sellers, Ira Jackson, mc Vanderbilt 97, cb 97, Birmingham.

Sholl, Edward Henry, mc Pennsylvania 56, cb Sumter 78, Birmingham.

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Shropshire, Courtney Wm., mc univ Tennessee 00, cb Limestone 03, Birmingham.

Shugerman, Harry P., mc Johns Hopkins 08, State Board 08, Birmingham.

Sibley, Barney Dunbar, mc Birmingham 98, cb Walker 99, Birmingham.

Smith, Wallace B., mc Birmingham 03, State Board 11, Birmingham.

Simpson, Harry M., mc univ Alabama 15, State Board 15, Birmingham.

Snow, John W., Jr., mc Chattanooga 07, cb Walker 07, Palos.

Snyder, J. Ross, mc Vanderbilt 01, cb 02, Birmingham.

Solomon, Edwin Philip mc univ Cincinnati 04, cb 05, Birmingham.

Sparks, David Hoyt, mc Tulane 12, State Board 13, Ensley.

Springfield, Thos. Jefferson, ng, 74, cb Lamar 76, Ensley, Birmingham.

Stubbins, Samuel Gaines, mc P. & S. St. Louis 07, cb Jefferson 07, Birmingham.

Stubbs, George Hamilton, mc Atlanta Southern 95, cb 97, Birmingham.

Swedlaw, Henry, mc Birmingham 07, cb 07, Birmingham.

Talley, Dyer Findley, mc Tulane 92, cb 92, Birmingham.

Tedder, Chas. E., mc Birmingham 12, State Board 12, Ensley.

Thornton, Wm. Lawson, mc Johns Hopkins 10, State Board 10, Birmingham.

Torrance, Gaston, mc univ Virginia 97, cb 00, Birmingham.

Troje, Oscar R., mc univ Kansas 07, State Board 13, Bayview.

Tucker, Easter W., mc Alabama 13, State Board 14, Wylam.

Turlington, Lee F., mc univ Pennsylvania 14, State Board 15, Birmingham.

Vance, J. G., mc Birmingham 05, cb 05, Marvel.

Waldrop, R. W., mc Louisville 96, cb 97, Bessemer.

Walker, Alfred A., mc Cornell 05, cb 05, Birmingham.

Wallace, Samuel H., mc Birmingham 11, State Board 13, Boyles.

Waller, Geo. D., mc Vanderbilt 99, cb Bibb 99, Bessemer.

Walsh, Grosbeck H., mc N. W. univ 02, State Board 13, Birmingham.

Ward, Henry Silas, mc univ Nashville 98, cb Blount 99, Birmingham.

Ward, Walter Rowland, mc Chattanooga 00, cb Tuscaloosa 00, Birmingham.

Watkins, Leon H., mc Johns Hopkins 09, State Board 09, Birmingham.

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Watkins, Miles A., mc Tulane 09, State Board 10, Birmingham.
Watterston, Charles, mc Tulane 09, State Board 11, Birmingham.
Weed, Walter A., mc Maryland Med. 05, cb Barbour 05, Birmingham.
Welch, Stewart H., mc Cornell 07, State Board 10, Birmingham.
Whaley, Lewis, mc Atlanta 73, cb Blount 78, Birmingham.
Whelen, Chas., mc Alabama 96, cb 96, Birmingham.
Whorton, Wm. Walter, mc Vanderbilt 99, cb Marshall 00, Pratt City.
Wilder, Wm. Hinton, mc univ New York 91, cb 91, Birmingham.
Wiley, Clarence C., mc Baltimore 08, State Board 09, Birmingham.
Wilks, Arthur E., mc Birmingham 09, State Board 09, Powderly, Birmingham.
Wilkinson, David L., mc Tulane 94, cb Autauga 94, Birmingham.
Williams, Thos. Herbert, mc Birmingham 13, State Board 13, Birmingham.
Wilson, Cunningham, mc univ Pennsylvania 84, cb Jefferson 84, Birmingham.
Wilson, Luther Elgin, mc univ Pennsylvania 11, State Board 13, Birmingham.
Winters, Jos. Schofield, mc Louisville 90, cb 90, Bessemer.
Winn, Lochlin Minor, mc Tulane 00, State Board 100, Birmingham.
Wood, Winston Cass, mc Atlanta 81, cb 81, Bessemer.
Woodson, Lewis Greene, mc univ Maryland 87, cb 88, Birmingham.
Woodson, Richard Carlisle, mc Tulane 04, cb Walker 06, Birmingham.
Wright, Solon Westcott, mc Birmingham 11, State Board 11, Bessemer.
Wright, Wm. E., mc Birmingham 07, State Board 07, Fairfield.
Wyman, Benjamin Leon, mc univ New York 79, cb Tuscaloosa 82, Birmingham.
Wynne, Wm. Hall, mc Birmingham 97, cb Marengo 97, Ensley, Birmingham.

Total, 290.

PHYSICIANS NOT MEMBERS.

Abney, John S., mc Memphis Hosp. 05, cb Baldwin 06, Birmingham.
Aldridge, Jonas W. (col.), mc Meharry 99, cb 02, Bessemer.
Ansley, Jno. Samuel, mc Atlanta 77, cb Old Law, Bessemer, R. F. D.
Attaway, Wm. A. (col.), mc Meharry 02, cb Etowah 03, Birmingham.
Ballard, Asa Elwyn, mc Pulte Med. Col. Ohio, cb 02, Birmingham.

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Ballard, Asa Nathaniel, mc Pulte 76, cb DeKalb 87, Birmigham.

Baldwin, L. W. (col.), mc Meharry 04, cb Walker 04, Pratt City, Birmingham.

Barnes, D. A., mc ...., cb ...., Bessemer.

Berry, J. Crawford, mc South Carolina 95, cb 95, Bessemer.

Bickley, Thos. J., mc Vanderbilt 79, cb 81, Birmingham.

Black, Wm. Alfred, mc Vanderbilt 90, cb Morgan 90, Birmingham.

Bonds, Jno. M., mc univ Nashville 06, cb Winston 06, Pratt City.

Boothe, C. O. (col.), mc Leonard 04, cb Talladega 04, Birmingham.

Bradford, Duke C., mc Birmigham 14, State Board 14, Birmingham.

Bradford, Fred D. (col), mc Meharry 13, State Board 13, Birmingham.

Branyon, A. C., mc Memphis 03, cb Lamar 03, Pinson.

Broughton, M. J. (col.), mc Meharry 15, State Board 15, Birmingham.

Brown, Arthur McKimmon (col.), mc univ Michigan 91, cb 91, Birmingham.

Brown, Robert Turner, Jr. (col.), mc Meharry 15, State Board 15, Birmingham.

Brown, Walter L., mc Meharry 15, State Board 15, Birmingham.

Bryant, Henry Clay, mc univ Chicago 11, State Board 12, Birmingham.

Burchfield Newbern B., mc Grant 07, cb Tuscaloosa 07, Bessemer.

Caffey, H. T., mc univ Nashville 83, cb Lowndes 83, Leeds.

Caffey, William Milton, mc Birmingham 14, State Board 14, Edgewater.

Caldwell, William D., mc Vanderbilt 88, cb 88, Wylam.

Canterberry, Tillie Z., mc Birmingham 15, State Board 15, Johns.

Carpenter, Nathan H., mc Tulane 98, cb Greene 98, Birmingham.

Carter, James Watson, mc univ Nashville 74, cb Limestone 78, Bessemer.

Chambers, J. S., mc ...., cb ...., Birmingham.

Clapp, Wm. Wesley, mc Cleveland (Homeopathic) 68, cb DeKalb 90, Birmingham.

Clayton, Benj. L., mc univ Vanderbilt 83, cb St. Clair 83, Village Springs.

Cocciola, Louis, mc Naples, Italy, ng, cb Cullman 00, Birmingham.

Coleman, Wm. Henry (col.), mc Meharry 00, cb Limestone 01, Bessemer.

Collins, Edgar, mc Birmingham 06, cb Cullman 06, Warrior.

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Collins, Thomas, mc Birmingham 12, State Board 13, Woodlawn, Birmingham.

Copeland, Chas. P., mc Birmingham 11, State Board 11, Birmingham.

Council, Wm. L. (col.), Meharry 99, cb 99, Birmingham.

Couric, Edmund S., mc Alabama 13, State Board 14, Woodward.

Cox, E. S. W., mc ...., cb ...., Warrior.

Cross, Thomas W., mc univ Nashville 77, cb old law, Thomas.

Dabney, John Davis, mc univ Washington 72, cb 90, Birmingham.

Davidson, James F., mc Alabama 86, cb 87, Birmingham.

Davis, Fred E., mc Birmingham 99, cb 99, East Lake, Birmingham.

Davis, Manley A., mc Birmingham 11, State Board 11, Pratt City, Birmingham.

Dedman, Jas. E., mc univ Tennessee 90, cb 98, Birmingham.

Downing, James H., mc Memphis H. M. C. 96, cb Lamar 97, Bessemer.

Dozier, Byron, mc Barnes 97, cb Elmore 00, Birmingham.

Dozier, Orian Thomas, mc Atlanta 74, cb 74, Birmingham.

Edmundson, Ezra L., mc univ Tennessee 72, cb 83, Brighton.

Edwards, Andrew J., mc Birmingham 12, State Board 12, Bessemer, R. F. D. 2.

Ellis, Geo. Washington, mc ...., cb 78, Birmingham.

Farley, Andrew Jackson, mc Atlanta 90, cb Shelby 90, Leeds.

Freeman, Marcellus H. (col.), mc Meharry 05, cb 06, Birmingham.

Gallion, T. T., mc Louisville 95, cb Marengo 95, Birmingham.

Giscombe, Cecil Stanley, (col.), mc Meharry 16, State Board 16, Avondale, Birmingham.

Goin, J. B. (col.), mc Meharry 90, cb 90, Birmingham.

Goin, L. U. (col.), mc Meharry 99, cb 99, Birmingham.

Gray, Edward Waters, mc Birmingham 09, State Board 10, Ensley.

Gregg, Eugene J. (col.), mc Meharry 05, cb Walker 05, Birmingham.

Grout, Sam'l Eugene, mc univ Minnesota 99, cb Jefferson 01, Bessemer.

Hamilton, Walter F., mc Birmingham 07, State Board 13, Birmingham.

Hancock, James F., mc Louisville 88, cb Walker 88, Morris, R. F. D.

Hankins, Wm. D., mc Memphis Hosp. 96, State Board 09, Birmingham.

Hankins, Jno. M., mc univ of Nashville 07, State Board 07, Woodlawn, Birmingham.

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Harris, E. A., mc Sewanee 98, cb St. Clair 98, Bessemer, Route 4.

Hayes, Wm. Isaac, mc Atlanta Southern 85, cb Walker 85, Powderly, Birmingham.

Hays, J. Howard, mc Birmingham 14, State Board 14, Birmingham.

Holliday, Walter Horner, mc univ of the South 01, cb Marshall 01, Fairview, Birmingham.

Hood, Alexander, mc Vanderbilt 00, cb 05, Birmingham.

Howard, Joshua E., mc univ Tennessee 87, cb DeKalb 95, Birmingham.

Howard, W. C. (col.), mc Meharry 15, State Board 15, Birmingham.

Howell, James M., mc Memphis Hosp. 04, cb Winston 04, North Birmingham.

Huckabee, Ben E. (col.), mc Meharry 02, cb Hale 02, Birmingham.

Ivey, Barna P., mc ...., cb ...., Birmingham.

Jackson, J. L. (col.), mc Meharry 06, cb Walker 06, Birmingham.

James, Milton P., mc Birmingham 11, State Board 11, Birmingham.

Johnson, Frank H., mc Grant 03, cb Russell 03, Ensley, Birmingham.

Johnson, Wm. B., mc univ South 05, cb Clay 05, Birmingham.

Jones, A., mc Vanderbilt 00, cb Calhoun 00, Ensley.

Jones, Richard C., mc Montezuma 98, cb Tuscaloosa 98, Johns.

Jones, Robert Arthur, mc Louisville 83, cb 86, Birmingham.

Jones, Thomas A., mc Birmingham 98, cb Chiffton 98, E. Lake, Birmingham.

Killough, James Monroe, mc univ Kentucky 87, cb 87, Woodlawn.

Kinkead, Kyle Johnson, mc Tulane 15, State Board 17, Birmingham.

Kinnette, Jackson Flavius, mc Georgia Eclectic 92, cb Shelby 92, Brighton, Birmingham.

Lawrence, William O, mc Birmingham 09, State Board 09, Leeds.

Lavender, William Algernon, mc Birmingham 09, State Board 10. Boyles, Birmingham.

Lee, Frank J., mc univ Alabama 08, State Board 08, Birmingham.

Long, Roy Cleveland, mc univ Tennessee 12, State Board 15, Cardiff.

Johnson, Wm. B., mc univ South 05, cb Clay 05, Birmingham.

Lewis, Frances P., mc univ South Carolina 77, cb 80, Birmingham.

Lewis, Herbert J., mc Birmingham 15, State Board 16, N. Birmingham.

McDaniel, Joe C., mc Birmingham 12, State Board 13, Birmingham.

McElroy, Chas. I., mc Memphis Hosp. 01, cb Choctaw 01, Birmingham.

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McGlathery, Fountain S., mc Vanderbilt 82, cb Morgan 82, Woodlawn, Birmingham.

McPherson, Webster, mc Tulane 11, State Board 12, Ensley.

Macklin, Robert B. (col.), mc Meharry 05, cb Tuscaloosa 05, Birmingham.

Marcus, Thomas J., mc Memphis 10, State Board 10, Porter.

Martin, Wm. G, mc univ Memphis Hosp. 93, cb 95, Warrior.

Mason, Ulysses G. (col.), mc Meharry, mc 95, cb 95, Birmingham.

May, Frank H., mc univ of South 98, cb Marion 99, Birmingham.

Meadow, Albert Eli, mc Pulte 83, cb 83, Birmingham.

Meers, A. A., mc ...., cb ...., Dolomite.

Messenger, F. R., mc Maryland P. & S. 02, illegal, Kimberly.

Miller, J. T., mc Vanderbilt 86, cb Pickens 86, Birmingham, R. F. D. 2.

Mitchell, Robert Lee, mc Chattanooga 94, cb Cullman 95, Warrior.

Montgomery, Oscar Haden, mc Birmingham 03, cb 03, E. Birmingham.

Moon, Emmet K., mc Grant univ 92, cb Franklin 92, Birmingham.

Morris, Emory Arnold, mc univ Nashville 02, cb Cullman 02, Ensley, Birmingham.

Morris, H. R., mc univ Nashville 06, cb St. Clair 06, Trussville.

Morton, T. C., mc Grant univ 91, cb Lamar 94, Birmingham.

Naff, Mortimer H., mc Birmingham 12, State Board 12, Dolomite.

Naramore, A. O., mc Memphis Hosp. 06, cb Walker 06, Adger.

Norton, H. F., ng, mc ...., cb ...., Leeds.

Nolen, Richard S., mc univ Kentucky 89, cb 89, Bessemer.

Perry, S. M., mc Vanderbilt 94, Tuscaloosa 94, Birmingham.

Porter, Daniel W. (col.), mc Meharry 05, cb Walker 06, Birmingham.

Robertson, A. G. (col.), mc Leonard 05, State Board 05, Birmingham.

Robinson, Joseph Bennett, mc Vanderbilt 69, cb St. Clair 78, Woodlawn, Birmingham.

Roper, Grady Clarence, mc Birmingham 15, State Board 15, Birmingham.

Rosamond, W. L, mc Kentucky School Med. 91, cb Walker 91, Birmingham.

Rutherford, E. G., mc univ Alabama 09, State Board 09, Birmingham.

Saunders, W. P., mc Meharry 13, State Board 13, Birmingham.

Shell, Charles C., mc Birmingham 09, State Board 09, Cardiff.

Sherman, Edgar P., mc uiv Wash. 10, State Board 17, Birmigham.

Simpson, Frank S. (col.), mc Leonard 02, cb Russell 02, Ensley, Birmingham.

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Sims, Jack H., mc Atlanta Southern 82, cb ...., Birmingham.
Smith, C. H., mc Birmingham 03, cb Franklin 03, Quinton.
Smith, James Clement, mc Birmingham 11, State Board 11, Pratt City.
Smith, P. F., mc Baltimore P. & S. 06, State Board 06, Ensley.
Smith, Robt. Lee, mc Louisville 91, cb 91, Bessemer, R. F. D. 5.
Sorrell, Howard H., mc Birmingham 08, State Board 08, Brookside.
Spencer, Lucien Allen, mc Miami 85, cb 85, Bessemer.
Stagg, John Bell, mc Vanderbilt 85, cb Walker 85, Pratt City.
Strawbridge, Fred H. (col.), mc Meharry 14, State Board 14, Birmingham.
Strickland, James J., mc Tulane 04, cb 04, Birmingham.
Sutton, Frederick Bland, mc univ of Michigan 81, cb Cullman 02, Birmingham.
Tarrant, Jas. Richard, mc Alabama 87, cb Talladega 87, Boyles.
Terrill, Jas. Walton, mc univ Alabama 13, State Board 13, Birmingham.
Thagard, Robert Albert, mc Tulane 97, cb Butler 97, Birmingham.
Thomas, Alfred E. (col.), mc Meharry 03, cb Limestone 06, Birmingham.
Thomas, Joseph T. (col.), mc Meharry 05, cb Limestone 05, Birmingham.
Thompson, Curry E. (col.), mc Leonard 08, State Board 09, Birmingham.
Tubb, James, mc Memphis 93, cb Walker 94, Bessemer.
Turner, Noah F., mc Meharry, cb 06, Rosedale, Birmingham, R. F. D.
Vann, Sidney J., mc univ Georgia 00, cb 00, West End.
Vines, A. V., mc .... cb ...., Bessemer, Route 5, Box 41.
Waldrop, W. M., mc Memphs 99, cb 99, Bessemer.
Waters, Archibald C., mc univ Nashville 00, State Board 10, Birmingham.
Watts, Anti Costa, mc Louisville 92, cb Winston 92, Lewisburg.
Weliborn, Mitchell D. (col.), mc Meharry 01, cb 01, Pratt City.
Wheeler, Thos. Tyler, mc Grant 00, cb Cleburne 00, Alton.
Whissenant, Lewis D., ng, mc ...., cb 78, Morris.
White, Aaron J., mc Tulane 14, State Board 14, Bessemer (Brighton).
White, Chas. Peyton, mc Memphis Hosp. 10, State Board 13, Trafford.
White, Robert Allen, mc univ Richmond 07, State Board 07, Wylam.
Wilkinson, Jno. G., mc univ Tennessee 02, cb Tuscaloosa 02, Birmingham.

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Woodall, P. H. (osteopath), mc univ Michigan 96, State Board 00, Birmingham.
Woods, Leo C., mc Birmingham 14, State Board 14, Birmingham.
Young, Walter B., mc Birmingham 01, cb 01, Warrior.
Total, 160.

Moved into the county—T. Z. Canterberry, from Tuscaloosa county to Johns; J. R. Bean, from Pennsylvania; L. G. Brownlee, from Oklahoma; Jerome Meyer; E. M. Norton; J. C. Smith, from Lamar county to Pratt City; W. B. Johnson, from Etowah county to Birmingham; E. S. Couric, from Barbour county to Birmingham.

Moved out of the county—R. C. Bankston, to Tampa, Fla; M. A. Davis, to Fort Payne; Leo Fox, to U. S. Army, Washington, D. C.; Geo. D. Heath, Jr.; James Reid; B. F. Smart, to Odenville; John W. Story, to Texas; A. F. Toole, to Asheville, N. C.; H. J. Denman; Chas. Gnasso, to Newark, N. J.; L. H. Woodruff, to Anniston.

LAMAR COUNTY MEDICAL SOCIETY—Birmingham, 1877.

OFFICERS.

President, R. H. Redden, Sulligent; Vice-President, A. W. Clanton, Millport; Secretary, W. L. Box, Bedford; Treasurer, W. L. Box, Bedford; County Health Officer, Chas. A. Davis, Kennedy; City Health Officers, Walter W. Blakeney, Millport; Chas. A. Davis, Kennedy; G. S. Barksdale, Fernbank; T. H. Young, Vernon; J. A. Jackson, Sulligent. Censors—J. A. Jackson, Chairman, Sulligent; R. H. Redden, Sulligent; T. H. Young, Vernon; C. A. Davis, Kennedy; W. L. Box, Bedford.

NAMES OF MEMBERS, WITH THEIR COLLEGES AND POSTOFFICES.

Barksdale, Geo. S., mc Memphis Hosp. 99, cb 99, Fernbank.
Black, James Berton, mc Memphis Hosp. 04, cb 04, Blowhorn.
Blakeney, Walter W., mc Memphis Hosp. 01, cb 01, Millport.
Box, Dan W., mc Alabama 85, cb 85, Vernon.
Box, W. L., mc univ Alabama 06, cb 06, Bedford.
Clanton, Albert W., mc Miss. Med. 07, cb 07, Millport.
Davis, Chas. A., mc Birmingham 12, State Board 12, Kennedy.

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Duncan, John H., mc Vanderbilt 86, cb 86, Millport.
Jackson, John A., mc Memphis Hosp. 99, cb 99, Sulligent.
Jones, Tarley W., mc Vanderbilt 00, cb 00, Kennedy.
Kennedy, John O., mc Alabama 82, cb 82, Kennedy.
Morton, Dick C., mc Memphis Hosp. 97, cb 97, Vernon.
Redden, Raymond H., mc Memphis Hosp. 01, cb 01, Sulligent.
Redden, Robert J., mc Washington univ 72, cb 77, Sulligent.
Young, T. H., mc Tulane 03, cb 03, Vernon.
Total, 15.

PHYSICIANS NOT MEMBERS.

Buckelew, Judge C., mc Grant univ 98, cb 98, Sulligent.
Coleman, Luther S., univ Tennessee, ng, State Board 09, Millport.
Collins, Francis A., mc Memphis Hosp. 92, cb 92, Crews Depot.
Hollis, Daniel D., ng, Old Law 84, Sulligent.
Miller, Robert H., mc Grant univ 02, cb Fayette 06, Covin.
Sizemore, William C., mc univ Nashville 04, cb 04, Melbourne.
Vaughn, George W., mc, ng, 88, cb 88, Vernon.
Total, 7.

Moved out of the county—J. C. Smith, from Beaverton to Pratt City.

LAUDERDALE COUNTY MEDICAL SOCIETY—Tuscaloosa, 1887.

OFFICERS.

President, W. B. Turner, Florence; Vice-President, George Williams, Killen; Secretary, W. J. Kernachan, Florence; Treasurer. W. J. Kernachan, Florence; County Health Officer, S. S. Roberts, Florence; City Health Officers, W. J. Callaway, Florence; J. C. Belew, Rogersville; A. H. Powers, Waterloo. Censors—E. B. Hardin, Chairman, Florence; W. B. Turner, Florence; R. L. Penn, Florence; P. I. Price, Florence; J. M. Maples, Killen.

NAMES OF MEMBERS, WITH THEIR COLLEGES AND POSTOFFICES.

Bayles, Lewis E., mc Alabama 11, State Board 11, Rogersville, R. F. D. 1.

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Belue, John Columbus, mc ng, cb 90, Rogersville.
Blakemore, Joseph N., mc Memphis Hosp. 07, cb 07, Florence.
Calloway, Wm. J., mc Birmingham 03, cb Jefferrson 03, Florence.
Duckett. Lee F., mc Tennessee 94, cb 02, Florence.
Ellis, Leon Cicero, mc Col. M. & S. Chicago 13, State Board 13, Florence.
Hardin, Edmund B., mc Louisville 96, cb Jefferson 96, Florence.
Jackson. Alva A., mc N. W. univ Med. Sch. 11, State Board 12, Florence.
Kernachan, Wm. Jones, mc Vanderbilt 80, cb 88, Florence.
Lee, John William, mc Kentucky School Med. 90, cb 95, Waterloo.
Maples, John M., mc univ Louisville 07, cb 07, Killen, R. F. D.
Morris, D Jackson, ng, cb ...., Florence, R. F. D. 4.
Peerson, James M., univ Vanderbilt 91, cb 91, Florence.
Penn, Richard L., univ Nashville 03, cb Winston 03, Florence.
Powers, Alexander H., mc univ Louisville 71, cb 95, Waterloo.
Price, Percy Isaac, mc Vanderbilt 86, cb 87, Florence.
Roberts, Shaler S., mc Atlanta 14, State Board 14, Florence.
Stutts, Henry Lee, mc Alabama 00, cb 01, St. Joseph, Tenn., Rt. 1.
Turner, William Brooks, mc Nashville 04, cb 04, Florence, R. F. D. 4.
Williams, Geo., ng, cb 90, Killen, R. F. D. 1.
Total, 20.

PHYSICIANS NOT MEMBERS.

Cotton, Spencer F., mc univ Alabama 09, State Board 14, Lexington.
Ethridge, Eli H., mc Birmingham 11, State Board 12, St. Joseph, Tenn.
Lindsay, Eugene C., mc Vanderbilt 95, cb Limestone 01, Florence.
Mackey, James Spencer, mc univ Tennessee 07, cb 07, Rogersville.
Pate, Jessie Americus, mc univ Louisville 75, cb 87, Rogersville.
Suggs, James Thomas (col.), mc Howard 03, cb Montgomery 06, Florence.
Sugg, Thos. Leland, mc Kentucky 88, cb 89, Smithsonia.
Taylor, John Walton, mc univ Tennessee 15, State Board 15, Lexington.
Weaver, L. A., ng, cb 88, Rogersville.
Watson, James Alex, mc Birmingham 03, cb 03, Waterloo.
Total, 10.

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Moved into the county—J. W. Taylor, to Lexington.

Moved out of the county—J. P. Chapman, to Talladega; D. R. Cornelius, to Ashland; W. H. Stanley, to Town Creek.

Died—H. A. Moody, S. D. Paulk, Chas. M. Watson.

LAWRENCE COUNTY MEDICAL SOCIETY—Birmingham, 1877.

OFFICERS.

President, Jno. T. Masterson, Moulton; Vice-President, J. N. Jackson, Mt. Hope; Secretary, C. R. Whitman, Mt. Hope; Treasurer, C. R. Whitman, Mt. Hope; County Health Officer, W. R. Taylor, Town Creek. Censors—J. W. Fennell, Chairman, Landersville; J. N. Jackson, Mt. Hope; J. H. Irvin, Moulton; W. R. Taylor, Town Creek; H. C. McCullough, Town Creek.

NAMES OF MEMBERS, WITH THEIR COLLEGES AND POSTOFFICES.

Fennell, James Wattie, mc Birmingham 01, cb 01, Landersville.
Irwin, John Howard, mc Chattanooga 04, cb 04, Moulton.
Irwin, Robert Price, mc Birmingham 10, State Board 09, Moulton.
Irwin, Thomas Howard, mc Vanderbilt 00, cb 00, Moulton.
Jackson, James Neal, mc Birmingham 04, cb 04, Mount Hope.
Masterson, John T., mc Pennsylvania 69, cb 78, Moulton.
McCullough, Henry Claiborne, mc univ Alabama 05, cb Morgan 05, Town Creek.
Sanders, Samuel R., mc Birmingham 08, State Board 08, Moulton.
Taylor, Woodie R., mc univ Nashville 10, State Board 10, Town Creek.
Ussery, James Alexander, mc Alabama 15, State Board 15, Courtland.
Whitman, Clayborne Russell, mc Birmingham 09, State Board 09, Mount Hope.

Total, 11.

PHYSICIANS NOT MEMBERS.

Clarke, John King, Jr., mc Vanderbilt 82, cb Franklin 88, Courtland.
Howell, J. R, mc Memphis 88, cb 88, Hatton.

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Neill, Luther C, mc Columbia univ 04, cb Bibb 04, Hillsboro.
Walker, D. C., mc Birmingham 05, cb 05, Hillsboro.
Total, 4.

Moved into the county—Luther C. Neill, to Hillsboro.

Moved out of the county—Paul Rigney, to El Paso, Texas; J. T. Pitts, to Arkansas.

Died—W. J. McMahon.

LEE COUNTY MEDICAL SOCIETY—Huntsville, 1880.

OFFICERS.

President, H. L. McClendon, Waverly; Vice-President, John F. Jenkins, Opelika; Secretary, M. D. Thomas, Opelika; Treasurer, M. D. Thomas, Opelika; County Health Officer, G. H. Cooper, Opelika; City Health Officers, H. L. McClendon, Waverly; C. S. Yarbrough, Auburn; R. S. Watkins, Phoenix City; G. H. Moore, Opelika. Censors—O. V. Langley, Chairman, Loachapoka; H. L. McClendon, Waverly; R. S. Watkins, Phoenix City.

NAMES OF MEMBERS, WITH THEIR COLLEGES AND POSTOFFICES.

Bennett, Abijah B., mc P. & S. Baltimore 81, cb 81, Opelika.
Bruce, Homer S., mc Atlanta 91, cb Chambers 91, Opelika.
Cooper, G. H., mc Chattanooga 01, cb Lamar 01, Opelika.
Curtis, Robert C, mc Memphis Hosp. 01, cb Shelby 01, Loachapoka.
Drake, Jno. Hodges, mc Atlanta 67, cb 81, Auburn.
Floyd, Ashby, mc Tulane 89, cb 95, Phoenix City.
Jenkins, John F., mc Alabama 01, cb Mobile 01, Opelika.
Langley, O. Velpean, mc Baltimore 93, cb Tallapoosa 93, Loachapoka.
Love, William Joseph, mc Atlanta Med. Col. 82, cb 85, Opelika.
Moore, Gilmer Harrison, mc Maryland 04, State Board 04, Opelika.
McClendon, Henry L., mc univ of the South 99, cb Chambers 00, Waverly.
McLain, Andrew D., mc Alabama 01, chambers 01, Salem.
Palmer, Jesse Gary, mc P. & S. Baltimore 84, cb Chambers 84, Opelika.
Thomas, Merrick D., mc P. & S. Columbia New York 04, cb Autauga 04, Opelika.

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Watkins, Richard S., mc Vanderbilt 81, cb Morgan 81, Phoenix City.
Wheelis, Wade K., mc Louisville 85, cb Chambers 85, Blanton.
Yarbrough, Chas. S., mc Atlanta 97, cb 97, Blanton.
Yarbrough, Cecil S., mc univ Tennessee 01, cb Russell 01, Auburn.
Yarbrough, Frank R., mc univ Tennessee 98, cb Crenshaw 98, Auburn.
Total, 19.

PHYSICIANS NOT MEMBERS.

Baird, S. L., mc ..... 02, cb ...., Phoenix City.
Ballard, Ira W., ug. 05, State Board 05, Opelika.
Bullard, C. C., mc Georgia Eclectic 91, cb Chambers 91, Opelika.
Darden, Jno. W., mc Leonard 01, State Board 02, Opelika.
Kirven, Thos. C., mc Louisville 92, cb ....., Auburn.
Lindsay, Eugene A., mc Meharry 08, State Board 09, Opelika.
Total, 6.

Moved into the county—Thomas C. Kirven, to Auburn.

Moved out of the county—Isham Kimball, to Alabama National Guard; R. W. Dowdy, to Russell county.

Died—O. M. Steadham.

LIMESTONE COUNTY MEDICAL SOCIETY—Birmingham, 1877.

OFFICERS.

President, J. S. Crutcher, Athens; Vice-President, M. W. Dupree, Athens; Secretary, A. L. Glaze, Athens; Treasurer, H. A. Darby, Harvest; County Health Officer, B. S. Pettus, Athens; City Health Officers, A. L. Glaze, Athens; A. D. Powers, Elkmont; B. S. Pettus, Mooresville. Censors—J. A. Pettus, Chairman, Athens; A. L. Glaze, Athens; M. W. Dupree, Athens; C. O. King, Athens; D. G. Estes, Bethel, Tenn., Route 2.

NAMES OF MEMBERS, WITH THEIR COLLEGES AND POSTOFFICES.

Crutcher, John Sims, mc Vanderbilt 89, cb 89, Athens.
Darby, Henry Alonzo, mc Birmingham 01, cb 01, Harvest, R. F. D.
Dupree, Marvin W., mc Alabama 03, cb 03, Athens.

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Estes, David G., mc univ Tennessee 01, cb 01, Westmoreland, Bethel, Tenn., R. F. D.

Glaze, Andrew Louis, Jr., mc Vanderbilt 12, State Board 13, Athens.

Hagan, Wm. James, mc Jefferson 84, cb 84, Athens.

Hughes, John Frederick, mc Birmingham 10, State Board 12, Athens, R. F. D.

King, Chas. Ordway, mc Vanderbilt 09, State Board 09, Athens.

Maples, Joseph Hemans, mc univ Nashville 05, cb 05, Elkmont.

Maples, Wm. Ellis, mc univ Nashville 03, cb 03, Elkmont.

Pettus, Benton S., mc Vanderbilt 92, cb 92, Athens

Pettus, Joseph Albert, mc Louisville 67, cb 67, Athens.

Powers, Alvin Dow, mc univ Alabama 11, State Board 11, Elkmont.

Total, 13.

PHYSICIANS NOT MEMBERS.

Cain, John J., mc Vanderbilt 97, cb 02, Mooresville.

Hill, James A., mc Vanderbilt 84, cb 84, Mooresville.

Hindman, David S., mc Memphis 03, cb ...., Ripley.

Jones, Thos. Crittenden, mc Louisville 76, cb Lawrence 88, Athens.

Kyle, William Bailey, mc Alabama 89, cb 89, Athens, R. F. D.

Mayhall, Clifford Vernon, mc Alabama 15, State Board 15, Elkmont.

Milhous, W. A., mc univ Nashville 68, Old Law, cb ...., Elkmont, Route 1.

Moore, Elisha B., ng, cb 69, Ripley.

Pettus, J. J., mc Alabama 08, State Board 08, Bellemina.

Sowell, W. O., ng, cb 78, Athens, R. F. D.

Suite, W. R., mc ...., cb ...., Athens.

Wilkinson, Thomas, ng, cb ...., Athens, Route 5.

Williams, Geo. Allen, mc univ Nashville 80, cb 91, Elkmont.

Total, 14.

Moved into the county—W. R. Suite, from Eva, Morgan county, to Athens; C. V. Mayhall, from Natural Bridge, Winston county, to Elkmont.

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LOWNDES COUNTY MEDICAL SOCIETY—Mobile, 1878.

OFFICERS.

President, G. N. Powell, Letohatchie; Vice-President, N. G. James, Hayneville; Secretary, W. E. Lee, Mt. Willing; Treasurer, W. E. Lee, Mt. Willing; County Health Officer, C. E. Marlette (1918), Hayneville. Censors—W. B. Crum, Chairman, Ft. Deposit; J. H. Kimbrough, Lowndesboro; C. W. Powell, Letohatchie; G. N. Powell, Letohatchie, R. 1; W. E. Lee, Mt. Willing.

NAMES OF MEMBERS, WITH THEIR COLLEGES AND POSTOFFICES.

Black, J. Henry, mc univ Alabama 05, State Board 05, Fort Deposit.
Carr, Geo. Washington LaFayette, mc univ Pennsylvania 55, cb 78, Fort Deposit.
Coleman, Aurelius Daniel, mc Alabama 80, cb 80, Mt. Willing.
Coleman, Henry Neal, non-graduate, State Board 02, Fort Deposit.
Crum, Wm. Barton, mc Alabama 88, cb 88, Fort Deposit.
Hagood, Robert B., mc Tulane 05, cb 05, Lowndesboro.
James, Norman Gilchrist, mc Alabama 98, cb 98, Hayneville.
Kimbrough, John Henry, mc Memphis Hospital 94, cb Wilcox 94, Lowndesboro.
Lee, William Ernest, mc Atlanta P. & S. 06, cb 06, Mt. Willing.
Marlette, Cyrus Edmond, mc Louisville 81, cb 91, Hayneville.
Marlette, George C., mc univ Alabama 16, State Board 16, Hayneville.
Powell, Clifton Woodruff, mc Alabama 91, cb 91, Letohatchie.
Powell, George Norman, mc Alabama 96, cb 97, Letohatchie, Route 1.
Total, 13.

PHYSICIANS NOT MEMBERS.

Clements, Henry Clay, mc Alabama 99, cb Autauga 99, Benton.
Lanford, W. B., mc Alabama 06, cb Crenshaw 06, Braggs.
Leatherwood, Elbert F., mc Alabama 07, cb 06, Braggs.
McPherson, Webster B., mc Tulane 07, State Board 12, Letohatchie.
Powell, Chas. William, mc Alabama 90, cb 90, Lowndesboro.
Total, 5.

Died—O. G. Bruner, Fort Deposit.

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MACON COUNTY MEDICAL SOCIETY—Selma, 1879.

OFFICERS.

President, B. W. Booth, Shorter; Vice-President, W. P. Magruder, Tuskegee: Secretary, G. B. Collier, Tuskegee; Treasurer, G. B. Collier, Tuskegee; County Health Officer, B. W. Booth, Shorter: City Health Officers, Robt. H. Howard, Tuskegee. Censors—P. M. Lightfoot, Shorter; R. H. Howard, Tuskegee; G. B. Collier, Tuskegee; F. M. Johnston, Tuskegee; L. W. Johnston, Tuskegee.

NAMES OF MEMBERS, WITH THEIR COLLEGES AND POSTOFFICES.

Boothe, Benson W., mc mc Alabama 05, cb Autauga 05, Shorter.
Collier, George B., mc Tulane 15, State Board 15, Tuskegee.
Howard, Robert H., mc univ Alabama 11, State Board 11, Tuskegee.
Johnston, Frank M., mc univ of South 00, cb 00, Tuskegee.
Johnston, Louis William, mc Alabama 89, cb 89, Tuskegee.
Lightfoot, John Steele, mc univ Nashville 68, cb 78, Shorter.
Lightfoot, Phillip Malcolm, mc Alabma 00, cb 00, Shorter.
Magruder, William Perry, mc Atlanta 90, cb 90, Tuskegee.
Total, 8.

PHYSICIANS NOT MEMBERS.

Hayes, Armistead L., mc Birmingham 14, State Board 14, Notasulga.
Kenney, John A. (col.), mc Leonard 01, cb 02, Tuskegee Institute.
Mullen, Wm. LaFayette, mc Alabama 03, cb Houston 03, Opelika, R. F. D.
Sankey, J. M., mc univ Alabama 04, cb 04, Downs.
Thompson, Charlton, mc P. & S. Atlanta 99, cb 99, Tuskegee.
Ward, Wm. Solomon, mc Atlanta Southern 90, cb Chambers 95, Notasulga.
Williams, Chas. Elias, mc Alabama 04, cb 04, Notasulga.
Wood, Geo. P., mc Memphis Hosp. 89, cb 90, Tuskegee.
Total, 8

Moved into the county—W. S. Johnson, from Tallapoosa county to Notasulga.

Moved out of the county—Thomas F. Taylor, to Houston county; W. B. Gibson, to .....

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MADISON COUNTY MEDICAL SOCIETY—Birmingham, 1877.

OFFICERS.

President, Edgar Rand, Huntsville; Vice-President, E. V. Caldwell, Huntsville; Secretary, H. C. Morland, Huntsville; Treasurer, H. C. Morland, Huntsville; County Health Officer, T. E. Dryer, Huntsville; City Health Officer, T. E. Dryer, Huntsville. Censors—F. E. Baldridge, Chairman, Huntsville; T. E. Dryer, Huntsville; Edgar Rand, Huntsville; L. P. Esslinger, New Market; M. R. Moorman, Huntsville.

NAMES OF MEMBERS, WITH THEIR COLLEGES AND POSTOFFICES.

Allen, Roscoe Bryant, mc univ Tennessee 11, State Board 12, New Hope.

Blanton, Chas. Edgar, mc Vanderbilt 82, cb 82, New Market.

Brooks, Osceola Judkins, mc Tulane 93, cb Chilton 93, Huntsville.

Burnam, James Fulton, univ Nashville 99, cb 99, Huntsville.

Caldwell, Edwin Valdivia, mc Alabama 07, State Board 07, Huntsville.

Carpenter, James Allen, mc Alabama 96, cb 96, New Hope.

Dryer, Thomas Edmund, mc Alabama 86, cb 86, Huntsville.

England, Walter Booker, mc univ Tennessee 04, cb Chambers 07, Huntsville.

Eslinger, Levi Prickett, mc Alabama 03, cb Chambers 03, New Market.

Esslinger, Wade Hampton, mc Sewanee 01, cb Lawrence 02, Meridianville.

Graham, Benjamin Emmett, mc univ of South 94, cb Jackson 94, Gurley.

Haden, William Wright, mc Vanderbilt 92, cb 94, Huntsville.

Hatchett, Wm. G., mc Memphis Hosp. 12, State Board 12, Toney.

Howard, Isaac Wm., mc Memphis Hosp. 98, cb DeKalb 99, Maysville.

Johnson, Henry R., mc univ Tennessee 87, cb 87, New Hope.

Kyser, James Allen, mc Tulane 11, State Board 11, Madison.

Lipscomb, Abin Wilshire, mc Vanderbilt 96, cb 96, New Market.

Mastin, T. Lacy, mc univ Pennsylvania 02, cb 02, Huntsville.

Moorman, Marion Ridley, mc univ of South 00, cb 01, Huntsville.

Moreland, Howard Canon, mc univ Kentucky 05, cb Hale 05, Huntsville.

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McCowan, Walter Steele, mc univ Tennesse 93, cb Morgan 03, New Market, R. F. D.

Patton, Irwin W., mc univ Virginia 94, cb 95, Madison.

Pettus, Claude, mc Vanderbilt 96, cb Limestone 96, Huntsville, Route No. 3.

Pride, William Thos., mc Tulane 95, cb 95, Madison.

Rand, Edgar, mc Alabama 79, cb Lawrence 79, Huntsville.

Russell, Christopher H., Birmingham 12, State Board 13, Huntsville.

Thomas, Herbert Holden, mc univ Tennessee 08, State Board 09, Huntsville.

Turner, Ferdinand Hammond, mc Birmingham 03, cb St. Clair 03, Toney.

Walker, J. Ernest, Jr., mc univ Tennessee 08, State Board 08, Huntsville.

Westmoreland, Hawkins Davenport, mc Vanderbilt 92, cb Limestone 93, Huntsville.

Wikle, Luther LaFayette, mc univ Tennessee 88, cb 88, Madison.

Williams, John W., mc Memphis Hosp. 95, cb Limestone 04, Harvest, R. F. D.

Williamson, Edwin Oliver, mc Chattanooga 98, cb 98, Gurley.

Wilson, Frank Baatty, mc Vanderbilt 01, State Board 10, Huntsville.

Winton, David M., mc Alabama 86, cb Morgan 86, Huntsville.

Total, 35.

PHYSICIANS NOT MEMBERS.

Arledge, Martha S., mc Los Angeles 10, State Board 10, Huntsville.

Brouilett, P. L., mc Cincinnati 71, State Board 84, Huntsville.

Derrick, Wm. W. (col.), mc Meharry 06, cb 96, Huntsville.

Hatcher, Archibald W., cb 82, retired, Huntsville.

Mullins, T. K., mc Atlanta 98, cb Pike 98, Huntsville.

Scruggs, Burgess S. (col.), mc Meharry 79, cb 79, Huntsville.

Shelby, Anthony, cb 78, retired, Huntsville.

Total, 7.

Moved into the county—T. K. Mullins, from Belle Ellen to Huntsville; Martha S. Arledge, to Huntsville.

Moved out of the county—Alfred M. Duffield, to Citronelle; D. S. Hindman, to Ripley, Limestone county.

Died—Dr. Felix Baldridge, since this report was made.

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MARENGO COUNTY MEDICAL SOCIETY—Birmingham, 1877.

OFFICERS.

President, W. B. Harrell, Thomaston; Vice-President, G. J. Dunning, Linden; Secretary, C. W. Brasfield, Linden; Treasurer, E. B. Bailey, Demopolis; County Health Officer, C. N. Lacy, Demopolis; City Health Officers, G. J. Dunning, Linden; T. C. Savage, Demopolis; T. C. Cameron, Faunsdale; W. C. Lockhart, Dayton; W. B. Harrell, Thomaston. Censors—A. B. Stone, Chairman, Linden; C. N. Lacy, Demopolis; T. C. Savage, Demopolis; W. C. Lockhart, Dayton; J. D. Jones, Sweetwater.

NAMES OF MEMBERS, WITH THEIR COLLEGES AND POSTOFFICES.

Bailey, Ed Burke, mc univ Virginia 97, cb 05, Demopolis.
Bradford, B. R., mc Alabama 04, cb 04, Dixon Mill.
Brasfield, Chas. W., mc Birmingham Med. Col. 03, cb 03, Linden.
Cameron, Turner C., univ Alabama 07, State Board 07, Faunsdale.
Cocke, Wm. T., mc Birmingham 03, cb Greene 03, Demopolis.
Dunning, Guy J., mc univ Alabama 11, State Board 11, Linden.
Hand, Samuel P., univ Louisiana 84, cb Sumter 84, Demopolis.
Harrell, Wm. B., mc Louisville 05, cb Chambers 05, Thomaston.
Hausman, Christopher P., univ Alabama 10, State Board 10, Nicholasville.
Jones, James D., univ of Ky. Sch. Med. 93, cb 94, Sweet Water.
Kimbrough, W. L, univ of Louisiana 81, cb Wilcox 81, Linden.
Lacey, Claud N., univ Alabama 00, cb Washington 03, Demopolis.
Lockhart, W. C., mc univ Alabama 89, cb 89, Dayton.
Miller, Jesse C., mc Memphis Hosp. 01, State Board 01, Myrtlewood.
Rhodes, Charles E., mc univ South 05, cb 06, Demopolis.
Savage, Thomas C., univ Alabama 11, State Board 12, Demopolis.
Slade, Henry, univ Alabama 72, cb 87, Magnolia.
Total, 17.

HONORARY MEMBERS.

Jones, G. E., mc univ Alabama 82, cb Clarke 83, Gallion, Route 1.
Wilson, I. G., mc univ Louisiana 58, cb Dallas 78, Demopolis.
Total, 2.

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PHYSICIANS NOT MEMBERS.

Johnson, I. W., univ Alabama 00, State Board 03, Nicholasville.
Lee, Earl F., univ Alabama 03, cb 04, Consul.
Malone, J. C., mc Memphis Hosp. 01, cb Greene 01, Dayton.
Moseley, David C., mc Alabama 88, cb 88, Faunsdale.
McCants, Jason S., mc Atlanta 66, cb 86, Jefferson.
McMillan, T. N., univ Alabama 95, cb ...., Consul.
Stallworth, C. J., mc univ of Maryland 12, State Board 12, Thomaston.
Stone, Sardine J., univ Alabama 87, cb Calhoun 87, Nanafalia.
Wood, J. H., mc univ Alabama 86, cb 86, Vangale.
Total, 9.

Moved out of the county—W. H. Abernethy, to Bibb county; R. P. Morrow, R. C. Gillespie, W. S. Tucker.

Died—A. B. Stone, Linden; G. H. Wilkerson, Demopolis.

MARION COUNTY MEDICAL SOCIETY—Montgomery, 1888.

OFFICERS.

President, Marvin S. White, Hamilton; Vice-President, J. C. Johnson, Hamilton; Secretary, John L. Wilson, Hackleburg; Treasurer, J. R. Burleson, Hamilton; County Health Officer, H. W. Howell, Hamilton; City Health Officers, H. W. Howell, Hamilton; H. W. Howell, Guin; H. W. Howell, Winfield; H. W. Howell, Hackleburg; H. W. Howell, Bear Creek. Censors—H. W. Howell, Hamilton; J. C. Johnson, Hamilton; M. C. Hollis, Winfield; J. L. Northington, Hamilton; J. L. Wilson, Hackleburg.

NAMES OF MEMBERS, WITH THEIR COLLEGES AND POSTOFFICES.

Barnes, Reuben H., mc Atlanta 14, State Board 14, Glen Allen, R. 1.
Brown, James R., mc Memphis Hosp. 12, State Board 13, Bexar, Route 1.
Burleson, John Rufus, mc Memphis Hosp. 97, cb 97, Hamilton.
Clark, William F., ng, Old Law 88, Hamilton, Route 1.
Flippo, La Fann N., mc univ of Alabama 04, cb 07, Bear Creek.

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Goggans, Kimbro B., Memphis Hosp. 93, cb 93, Hackleburg.
Hill, Robert L, mc Memphis Hosp. 05, cb 05, Winfield.
Hollis, Murray C., Memphis Hosp. 08, State Board 08, Winfield.
Howell, Will W., mc univ Nashville 09, State Board 09, Hamilton.
Johnson, John Carroll, mc Louisville 92, cb Fayette 92, Hamilton.
Mixon, George Wesley, mc Alabama 04, cb 04, Hackleburg.
Moorman, Achilles Lucian, mc Kentucky, ng, Old Law 88, Bexar.
McDiarmid, Thomas S., mc Birmingham 09, State Board 10, Brilliant.
Northington, James L., mc Memphis Hospital 07, cb 07, Hamilton.
Phillips, Wendell V., mc Alabama 01, cb 02, Bear Creek.
Shelton, William H., mc Memphis Hosp. 01, cb 01, Guin.
Sizemore, Daniel M, mc univ Nashville 07, cb Lamar 07, Guin.
White, Marvin S., mc Louisville 03, cb 03, Hamilton.
Wilson, Jno. L., mc Birmingham 11, State Board 12, Hackleburg.
Total, 19.

PHYSICIANS NOT MEMBERS.

Cochran, William J., ng, Old Law 88, Brilliant.
Earnest, James F., ng, Old Law 88, Winfield.
Earnest, Warren L., mc Memphis Hosp. 04, cb 04, Winfield.
Williams, Larkin W., ng, Old Law 88, Brilliant.
Total, 4.

MARSHALL COUNTY MEDICAL SOCIETY—Anniston, 1886.

OFFICERS.

President, W. E. Noel, Boaz; Secretary, W. T. Miller, Albertville; Vice-President, E. M. Hyatt, Boaz; Treasurer, H. G. Waddell, Horton; County Health Officer, W. A. Elrod (1917), Albertville; City Health Officers, R. F. Fennell, Guntersville; M. G. Shipp, Albertville; B. S. Cooley, Boaz. Censors—B. S. Cooley, Chairman, Boaz; J. R. Thomas, Albertville; J. C. Jordan, Guntersville; Lee Dowdy, Albertville; E. H. Couch, Union Grove.

NAMES OF MEMBERS, WITH THEIR COLLEGES AND POSTOFFICES.

Barnard, Frank P., mc Chicago M. & S. 14, State Board 15, Arab.
Cooley, Beamon Sherley, mc univ Tennessee 12, State Board 12, Boaz.

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Couch, Ezekiel H., mc Vanderbilt 05, cb 05, Union Grove.
Dowdy, I. Lee, mc Chattanooga 03, cb 03, Albertville, R. F. D.
Elrod, Wm. Addison, mc univ of South 00, cb 01, Albertville.
Fennell, Robert Foster, mc Tulane 11, State Board 11, Guntersville.
Gillespie, William T., mc Chattanooga 98, cb 98, Boaz.
Haden, Robt. Howell, mc univ Nashville 09, State Board 09, Guntersville.
Hall, Wm. Presley, mc Atlanta 86, cb 86, Albertville.
Harris, John Calhoun, mc Chattanooga 00, cb 01, Columbus City.
Huckaby, Wm. R., mc Birmingham 15, State Board 15, Union Grove.
Hughes, William L., mc ng, cb 86, Union Grove.
Hyatt, Ernest M., mc univ Alabama 11, State Board 11, Boaz, R. F. D.
Isbell, A. L., mc Birmingham 12, State Board 12, Crossville, R. F. D.
Johnson, John Kemper, mc univ Nashville 84, cb DeKalb 85, Boaz.
Jordan, David Carnes, mc Memphis Hosp. 92, cb 92, Guntersville.
Lusk, Phocion B., mc Bellevue 91, cb 91, Guntersville.
Maples, John H., Old Law, cb 86, Guntersville, R. F. D.
Miller, Walter T., mc Birmingham 07, cb DeKalb 07, Albertville.
Morton, David A., mc Grant univ 96, cb 96, Boaz.
Noel, William E., mc Grant univ 99, cb 00, Boaz.
Parrish, Daniel, mc Chattanooga 00, cb 01, Albertville.
Sherman, James R., mc Georgia Eclectic 89, cb 89, Albertville.
Shipp, Montgomery Gilbert, mc Vanderbilt 01, cb 00, Albertville.
Stubbs, W. L., mc Alabama 99, cb Cherokee 99, Horton.
Thomas, John R., mc univ Nashville 02, cb 02, Albertville.
Thomason, James Henry, mc univ Tennessee 07, cb 07, Guntersville.
Waddell, Henry Grady, mc Vanderbilt univ 14, State Board 14, Horton.

Total, 28.

PHYSICIANS NOT MEMBERS.

Hinds, Montgomery L., mc Vanderbilt 91, cb Cullman 92, Arab.
Hinds, Wm. T., mc Alabama 90, Blount 90, Arab.
Horsley, Henry L., mc univ Nashville 04, cb 02, Boaz, R. F. D.
Irvin, W. F., mc univ Louisville 83, cb 87, Albertville.
Lindsey, Joseph Edward, mc Birmingham 14, State Board 14, Horton.
Noel, W. L., mc univ Alabama 79, cb Fayette 79, Boaz.

Total, 6.

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MOBILE COUNTY MEDICAL SOCIETY—Mobile, 1876.

OFFICERS.

President, J. J. Peterson, Mobile; Vice-President, L. W. Roe, Mobile; Secretary, W. W. Scales, Mobile; Treasurer, Eugene Thames, Mobile; County Health Officer, P. J. M. Acker, Mobile; City Health Officers, C. A. Mohr, Mobile; Means Blewett, Citronelle. Censors—M. T. Gaines, Mobile, Chairman; J. J. Peterson, Mobile; H. T. Inge, Mobile; D. T. McCall, Mobile; G. J. Winthrop, Mobile.

NAMES OF MEMBERS, WITH THEIR COLLEGES AND POSTOFFICES.

Acker, Paul Jerome Morris, mc Alabama 92, cb 92, Mobile.
Agnew, James Howard, mc univ Michigan 10, State Board 14, Mobile.
Atkins, James D., mc univ Alabama 06, State Board 07, Mobile.
Bancroft, Marion Joseph, mc Alabama 99, cb Mobile 00, Mobile.
Baumhauer, Theodore Clergot, univ of Pennsylvania 03, cb 07, Mobile.
Beck, Julius Edward, mc univ Alabama 12, State Board 12, Mobile.
Blewett, Means, mc univ Tennessee 91, cb Washington 95, Citronelle.
Bondurant, Eugene DuBose, mc univ Virginia 83, cb Hale 83, Mobile.
Campbell, Douglas Gwin, mc Alabama 96, cb Mobile 96, Mobile.
Chawthon, Edly W., mc univ Alabama 08, State Board 08, Plateau.
Cogburn, Harry Reginald, mc univ Alabama 13, State Board 13, Bayou La Batre.
Cole, Herbert P., mc Johns Hopkins univ 06, State Board 07, Mobile.
Crampton, Orson Lucius, mc Bellevue 65, cb Mobile 78, Mobile.
Dodson, James Horace, mc univ Alabama 14, State Board 14, Mobile.
Dodson, Robert Bruce, mc univ Alabama 13, State Board 13, Grand Bay.
Dreaper, Edward Bernard, mc univ Pennsylvania 07, State Board 09, Mobile.
Farish, Clarence E., mc univ Alabama 06, cb Mobile 06, Mobile.
Festorrazzi, Angelo, mc Alabama 87, cb Mobile 88, Mobile.
Fonde, Geo. Heustis, mc Alabama 97, cb Mobile 97, Mobile.
Frazer, Tucker Henderson, mc Alabama 88, cb Lee 88, Mobile.
Gaines, Marion Toulmin, mc Alabama 90, cb Mobile 92, Mobile.
Gaines, Vivian Pendleton, mc univ of Alabama 72, P. & S. N. Y. 73, cb Choctaw 79, Mobile.
Gay, Nathaniel S., mc Alabama 00, cb Mobile 01, Whistler.

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Glass, Parker Joseph, mc Alabama 84, cb Mobile 95, Mobile.
Haas, Toxey Daniel, mc univ Alabama 12, State Board 12, Mobile.
Hale, Stephen Fowler, mc Maryland 04, State Board 04, Mobile.
Henderson, William Thomas, mc Detroit 96, cb Mobile 97, Mobile.
Howard, Percy John, mc Alabama 96, cb Mobile 96, Mobile.
Inge, Francis Marion, mc Maryland 10, State Board 10, Mobile.
Inge, Harry Tutwiler, mc univ New York 83, cb Mobile 83, Mobile.
Inge, James Tunstall, mc univ New York 94, cb Mobile 95, Mobile.
Jackson, Wm. Richard, mc Alabama 8, cb Mobile 88, Mobile.
Jones, Robert Clarence, mc Alabama 05, cb Mobile 05, Mobile.
Jones, William C., mc Alabama 07, State Board 07, Mobile.
Kilpatrick, George Carlton, mc Tulane 08, State Board 15, Mobile.
McCafferty, E. L., mc Atlanta P. & S. 02, cb Mobile 02, Mount Vernon.
McCall, Daniel T., mc Louisville 94, cb Choctaw 94, Mobile.
McGehee, Paul Duncan, mc univ Alabama 10, State Board 09, Mobile.
Madler, Nicholas Allen, mc Rush 04, cb Mobile 05, Mobile.
Maumenee, Alfred Edward, mc univ Alabama 05, cb Wilcox 05, Mobile.
Mohr, Charles A., mc Alabama 84, cb Mobile 92, Mobile.
Newburn, George W., mc Alabama 07, cb Mobile 07, Prichard.
Newburn, Vaudy W., mc Alabama 01, State Board 01, Wilmer.
Oates, William Henry, mc Bellevue 98, cb 02, Mobile.
O'Gwynn, John Coleman, mc Tulane 92, cb Mobile 92, Mobile.
Owen, Calvin Norris, mc Alabama 88, cb Mobile 88, Mobile.
Peterson, James Jesse, mc Tulane 99, cb Lee 00, Mobile.
Perdue, William W., mc univ Alabama 08, State Board 07, Mobile.
Pugh, Sidney Stewart, mc Tulane 89, cb Clarke 89, Mobile.
Reaves, Jesse Ullman, mc Tulane 08, State Board 08, Mobile.
Roe, Lee Wright, mc Alabama 01, cb Mobile 01, Mobile.
Rush, John Osgood, mc univ Alabama 04, cb 05, Mobile.
Sanders, William Henry, mc Jefferson 61, cb Mobile 78, Montgomery.
Scales, Willis West, mc Alabama 96, cb Mobile 96, Mobile.
Schwartz, Joseph, mc Tulane 01, cb Marengo 01, Mobile.
Sledge, Edward Simmons, mc univ Pennsylvania 09, State Board 10, Mobile.
Terrill, Edward Chapin, mc univ Alabama 09, State Board 10, Mobile.
Terrill, Joshua D., mc Ohio 85, cb Mobile 92, Mobile.
Terrill, James W., mc univ Alabama —, State Board 13, Birmingham.
Thames, Eugene, mc univ Alabama 10, State Board 10, Mobile.

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Walker, Howard J. S., mc Memphis Hosp. 13, State Board 14, Theodore.

Wilson, John M., mc Alabama 07, State Board 07, Mobile.

Winthrop, Gilman Joseph, mc Johns Hopkins 08, State Board 08, Mobile.

Wright, Ruffin A., mc univ Virginia 80, cb Sumter 89, Mobile.

Total, 64.

PHYSICIANS NOT MEMBERS.

Adams, John Thomas, mc univ Alabama 09, State Board.

Allison, James M. (col.), mc Meharry 15, State Board 16, Mobile.

Bickley, Thomas James, mc Vanderbilt 79, cb Colbert 81, Mobile.

Brewton, William B., mc Alabama 00, cb 02, Theodore.

Brown, Quarles J., mc Alabama 00, cb Mobile 00, Mobile.

Brown, Robert Dwight, mc Nat. Med. Union 97, State Board 06, Mobile.

Brown, William F., mc Leonard 05, State Board 05, Mobile.

Burkhalter, John T., U. S. P. H. S., Mobile.

Chapman, Chas. Edward, mc Alabama 00, cb Conecuh 02, Mobile.

Clarke, William Harvey, mc Alabama 94, State Board 94, Salco.

Duffield, Alfred M. (Hom.), univ Boston 85, cb 85, Citronelle.

Duggar, Llewellyn Ludwig, mc Alabama 98, cb 99, Mobile.

England, John Tillman, mc Alabama 99, cb 99, Mobile.

Fort, Mannie A., mc Tulane 03, cb Limestone 04, Grand Bay.

Goff, McInnis Lamar, mc univ Alabama 12, State Board 13, Mobile.

Gray, Henry Warren, mc Kentucky School Med. 03, State Board 13, Oak Grove.

Hale, Wm. Alexander, mc Chattanooga 06, cb Mobile 06, Mobile.

Harris, Oliver Hood, mc Alabama 95, cb Mobile 96, Mobile.

Harris, Thos. Nathaniel, mc Meharry 99, State Board 99, Mobile.

Heard, W. L, mc univ Alabama 14, State Board 14, Mt. Vernon.

Inge, Richard, mc univ New York 71, cb Hale 78, Mobile.

Jeffries, Wm. Bennett, mc Washington univ Baltimore 76, cb Perry 77, Citronelle.

Jones, Paul Roy, cb Vanderbilt 98, cb Franklin 98, Whistler.

Kilpatrick, Rufus H., mc Alabama 88, cb Wilcox 88, Irvington.

Ligon, Ellen, mc American School of Osteopathy 00, State Board 00, Mobile.

Little, Otis W., mc univ Louisville, State Board 11, Mt. Vernon.

Long, Daniel J., mc univ Alabama 16, State Board 17, Prichard.

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Macy, Robert C., mc Alabama 87, cb 87, Mobile.
Mastin, Claudius H., mc Pennsylvania 84, cb 84, Mobile.
Mastin, Wm. McDowell, mc univ Pennsylvania 74, cb Mobile 74, Mobile.
Myers, Augustus P., mc St. Louis Homeopathic 88, Old Law, Mobile.
McCrary, Drury O., mc Pulte 96, cb 97, Mobile.
Peterson, Edward Ardis, mc Vanderbilt 02, cb Clarke 02, Mobile.
Reed, Jesse McCampbell, mc univ Alabama 14, State Board 14, Chunchula.
Roach, Alexander N. Talley, mc univ South 02, cb Perry 02, Mobile.
Roe, C. K., mc univ Kentucky 71, cb Mobile 06, Spring Hill.
Ross, Cecil H., mc univ Tennessee 16, State Board 16, Spring Hill.
Spottswood, Dillon J., mc Alabama 90, cb Mobile 92, Mobile.
Schwaemmle, Chas. H., mc Jefferson 90, cb Mobile 90, Mobile.
Sherard, Frank Ross, mc univ Pennsylvania 94, cb Mobile 94, Mobile.
Simington, Alfred Dennis (col.), mc Meharry 00, cb Perry 01, Mobile.
Thayer, Alfred Edward, mc P. & S., N. Y. 84, State Board 14, Mobile.
Ward, Alfred G., mc Alabama 94, cb Mobile 94, Mobile.
Williams, Henry Roger, mc Meharry 00, cb Morgan 00, Mobile.
White, Meredith, mc American School Osteopathy 10, State Board 10, Mobile.
Total, 45.

Moved into the county—Jno. T. Burkhalter, U. S. P. H. S.; A. M. Duffield, to Citronelle; T. J. Bickley, from Birmingham to Mobile; J. McC. Reed, to Chunchula; R. B. Dodson, from Eva to Grand Bay; D. J. Long, to Pritchard.

Moved out of the county—E. M. Sasville, to Montgomery; J. H. Stone, to Washington, D. C.; A. J. Wood; O. W. Little, to Baldwin county; J. D. Perdue, from Mt. Vernon to Wilcox county.

Died—R. H. von Ezdorf, Sept. 8, 1916, disease of the heart; E. S. Feagin, Dec. 30, 1916, valvular disease of heart and pulmonary tuberculosis; W. H. Sledge, April 30, 1916, diabetes.

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MONROE COUNTY MEDICAL SOCIETY—Birmingham, 1877.

OFFICERS.

President, F. S. Dailey, Tunnel Springs; Vice-President, A. B. Coxwell, Monroeville; Secretary, W. T. Bayles, Monroeville; Treasurer, W. T. Bayles, Monroeville; County Health Officer, F. S. Dailey, Tunnel Springs; City Health Officers, A. B. Coxwell, Monroeville; J. F. Busey, Roy; W. A. Stallworth, Beatrice; E. R. Cannon, Vredenburgh. Censors—J. W. Rutherford, Chairman, Franklin; J. W. Roberts, Pine Apple, Route 1; G. H. Harper, Uriah; A. B. Coxwell, Monroeville; J. J. Dailey, Tunnel Springs.

NAMES OF MEMBERS, WITH THEIR COLLEGES AND POSTOFFICES.

Bayles, Willard T., mc Atlanta 02, cb 02, Monroeville.
Cammack, Kossuth R., mc Alabama 13, State Board 14, Mous.
Cannon, Edmund R., mc Alabama 05, cb 05, Vredenburgh.
Cole, David D., mc Alabama 97, cb 98, Eliska.
Coxwell, Alvin Bartley, mc Louisville 07, cb 07, Monroeville.
Dailey, Fleming Straughn, mc Alabama 71, cb 77, Tunnel Springs.
Dailey, John J., mc Alabama 06, cb 06, Tunnel Springs.
Dennis, Thos. Edmund, mc univ South 08, State Board 08, Monroeville.
Harper, George H., mc Atlanta 02, cb 02, Uriob.
Hestle, William Monroe, mc Alabama 85, cb 88, Buena Vista.
Lyda, Henry M., mc Memphis Hosp. 05, cb Houston 05, Roy.
Mason, William Allen, mc Alabama 06, cb Conecuh 06, Excel.
McMillan, Samuel B., mc Atlanta P. & S. 02, cb 02, Roy.
Nettles, Daniel R., mc Alabama 01, cb 01, Peterman.
Rutherford, James Wallace, mc Alabama 93, cb 93, Franklin.
Roberts, James W., mc Memphis 07, cb 07, Pine Apple, R. F. D. No. 1.
Smith, Rayford Agee, mc univ Alabama 12, State Board 13, Wainwright.
Stallworth, William Allen, mc Alabama 93, cb 93, Beatrice.
Stacy, Andrew George, mc Ky. Sch. Med. 05, cb 06, Skinnerton.
Total, 19.

HONORARY MEMBERS.

Hestle, James Jackson, mc Atlanta Dental 08, State Board 08, Monroeville.

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Johnson, John M., mc Southern Dental 00, State Board 00, Franklin.
Rikard, Lawrence W., mc Southern Dental 06, State Board, Peterman.
Watson, George Curtis, mc Atlanta Dental 05, State Board 05, Monroeville.
Yarbrough, Sam'l S., mc Atlanta Dental 15, State Board 15, Monroeville.
Total, 5.

PHYSICIANS NOT MEMBERS.

Broughton, William Edward, mc Louisville 10, State Board 10, Perdue Hill.
Bryars, Floyd, mc Alabama 05, cb Baldwin 05, Eliska.
Busey, John Franklin, mc Alabama 94, cb 94, Roy.
Caine, Vaughn Holmes, mc Alabama 92, cb Perry 92, Nadawah.
Cobb, Wm. Floyd, mc Vanderbilt 95, cb Clarke 95, Roy.
Gilliard, Geo. W., mc Louisville 82, cb 82, Perdue Hill.
Gilliard, Sam S., mc Alabama 10, State Board 10, Perdue Hill.
Justice, Frank O., univ of Alabama 07, cb Geneva 07, Jeddo.
Total, 8.

Moved into the county—Frank M. Justice, from Clarke to Jeddo.

MONTGOMERY COUNTY MEDICAL SOCIETY—Eufaula, 1878.

OFFICERS.

President, P. S. Mertins, Montgomery; Vice-President, C. H. Rice, Montgomery; Secretary, C. G. Laslie, Montgomery; Treasurer, F. C. Stevenson, Montgomery; County Health Officer, R. Goldthwaite, Montgomery; City Health Officer, C. G. Laslie, Montgomery. Censors—G. Andrews, Chairman, Montgomery; J. L. Gaston, Montgomery; F. C. Stevenson, Montgomery; I. L. Watkins, Montgomery; F. W. Wilkerson, Montgomery.

NAMES OF MEMBERS, WITH THEIR COLLEGES AND POSTOFFICES.

Anderson, Benj. F., mc Alabama 08, State Board 09, Montgomery, R. F. D. No. 3.

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Anderson, John Mordecai, mc univ New York 91, cb 91, Montgomery.

Andrews, Glenn, mc univ New York 86, cb 86, Montgomery.

Arms, Burdett Loomis, mc univ Vermont 05, State Board 16, Montgomery.

Baker, James Norment, univ Virginia 98, cb 00, Montgomery.

Baldwin, Benj. James, mc Bellevue Hospital 77, cb 83, Montgomery.

Billing, Samuel Aydellotte, mc Bellevue Hospital 97, cb 97, Montgomery.

Blue, John Howard, Col. P. & S. New York 01, State Board 01, Montgomery.

Boswell, Frederick Page, mc Alabama 13, State Board 14, Montgomery

Boyd, Lynn Matthews, mc Alabama 01, cb Macon 01, Montgomery.

Burke, Rush Pearson, mc P. & S. New York 08, State Board 10, Montgomery.

Centerfit, Samuel Early, univ New York 98, State Board 99, Montgomery.

Chapman, Benjamin Sidney, mc univ New York 92, cb 92, Montgomery.

Cowles, A. D., mc Alabama 11, State Board 11, Ramer.

Dawson, Harris Pickens, mc Tulane 10, State Board 09, Montgomery.

Dennis, Andrew J. L., mc Atlanta Southern 90, cb Chilton 94, Montgomery.

Dennis, George A., mc Atlanta Southern 93, cb Autauga 93, Montgomery.

Dinsmore, William Wert, Johns Hopkins univ 07, cb Morgan 07, Montgomery.

Duncan, Thomas, mc Alabama 92, cb 92, Sellers, R. F. D.

Gaston, Joseph Lucius, mc P. & S. New York 85, cb 88, Montgomery.

Goldthwaite, Robert, mc Bellevue Hospital 93, cb 93, Montgomery.

Greil, Gaston J., mc P. & S. New York 01, State Board 02, Montgomery.

Haigler, James Robert, mc Alabama 97, State Board 97, Montgomery.

Hill, Luther Leonidas, mc univ New York 81, cb Jefferson 81, Montgomery.

Hill, Robert Somerville, mc univ New York 91, cb 91, Montgomery.

Hubbard, Thomas Brannon, mc P. & S. New York 10, State Board 12, Montgomery.

Kirkpatrick, Milton Barnes, mc Tulane 96, cb Crenshaw 96, Montgomery.

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Laslie, Carney G., mc Baltimore 03, cb Macon 03, Montgomery.
Law, Wm. Lamar, mc Tulane 94, cb Dallas 94, Montgomery.
Lay, Harry Toulmin, mc univ Virginia 04, State Board 04, Montgomery.
Marks, Chas. L., mc univ Virginia 06, cb 06, Montgomery.
Mason, Joseph Crump, mc Bellevue 81, cb 81, Snowdoun.
Mertins, Paul Stearns, mc Harvard 00, cb Conecuh 01, Montgomery.
Milligan, Rufus Lee, mc Nashville 03, cb Cullman 03, Montgomery.
Montgomery, Arthur Hugh, mc Atlanta 98, cb 98, Montgomery.
Mount, Bernard, mc Tulane 00, State Board 06, Montgomery.
McCall, Julius Watkins, mc Tulane 15, State Board 16, Montgomery.
McConnico, Frank Hawthorne, mc Tulane 99, cb Wilcox 99, Montgomery.
McGehee, William Wallace, mc Alabama 07, State Board 08, Montgomery.
Perry, Henry Gaither, mc Georgia Eclectic 88, cb Butler 88, Montgomery.
Persons, Henry Stanford, mc univ Virginia 93, cb Lee 94, Montgomery.
Pollard, Chas. Teed, mc Tulane 97, cb 97, Montgomery.
Priest, Howard, mc univ Kentucky 06, State Board 17, Montgomery.
Reynolds, Gibson, mc P. & S. New York 01, State Board 01, Montgomery.
Rice, Clark Hilton, mc Tulane 03, State Board 14, Montgomery.
Robinson, Louis Dominick, mc Tulane 96, cb 96, Montgomery.
Rushing, Thomas Eibert, mc Alabama 90, cb 91, Pike Road.
Salter, Paul Pullen, mc Tulane 16, State Board 16, Montgomery.
Sellers, Wilbur Allen, mc Alabama 04, cb Bullock 04, Montgomery.
Snow, Jno. L., mc Alabama 91, cb Lowndes 91, Montgomery.
Smith, Boylston Dandridge, mc Baltimore 13, State Board 14, Montgomery.
Smith, James Lee, mc Atlanta P. & S. 10, State Board 10, Montgomery, Route 2.
Steiner, Samuel Jackson, mc Vanderbilt 78, cb Butler 79, Montgomery.
Stevenson, Forney Caldwell, mc P. & S. New York 93, cb Calhoun 93, Montgomery.
Stough, Thos. Jefferson, mc univ Tennessee 93, cb Crenshaw 93, Montgomery.
Stough, Wm. Vesta, mc Alabama 07, cb 07, Montgomery.

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Suggs, Samuel D., mc Alabama 05, cb 05, Montgomery.
Tankersley, Wm., mc univ Kentucky 06, cb Crenshaw 06, Hope Hull.
Thigpen, Charles Alston, mc Tulane 88, cb Butler 88, Montgomery.
Thigpen, Francis Marion, mc Tulane 91, cb Butler 91, Montgomery.
Thigpen, Wm. Gray, mc Tulane 01, cb 01, Montgomery.
Thorington, Thos. Chilton, mc Tulane 94, cb 94, Montgomery.
Waller, George Platt, mc univ New York 92, cb 92, Montgomery.
Watkins, Isaac LaFayette, mc Bellevue 78, cb Bullock 86, Montgomery.
Westcott, Wm. B., mc P. & S. New York 02, State Board 02, Montgomery.
Wilkerson, Fred Wooten, mc P. & S. New York 09, State Board 09, Montgomery.
Wilkinson, Henry B., mc univ Virginia 94, cb Tuscaloosa 96, Montgomery.
Williams, Keller Bell, mc univ South 07, State Board 08, Cecil.
Wood, Milton Legrand, mc Bellevue 77, cb 84, Montgomery.
Total, 69.

PHYSICIANS NOT MEMBERS.

Adair, Roman T. (col.), mc Am. Mission 10, State Board 11, Montgomery.
Athey, Clanton Ray, mc Alabama 10, State Board 10, Ramer.
Barton, Jno. F., ng, State Board 03, Montgomery.
Buchannan, Jno. P., mc univ of Alabama 92, cb Butler 92, Montgomery.
Calloway, James Wesley, mc Vanderbilt 82, cb Butler 82, Snowdoun.
Caffey, Frank C. (col.), mc Meharry 99, cb Russell 99, Montgomery.
DeRamus, Jas. A. (col.), mc Meharry 11, State Board 12, Montgomery.
Dungee, Alfred C. (col.), mc Howard 87, State Board 91, Montgomery.
Eubanks, Schuyler C., mc Alabama 02, cb Covington 02, Mt. Meigs.
Gallion, Thos. Travis, mc Louisville 95, cb Marengo 95, Montgomery.
Garrett, Richard H. L., mc Maryland 02, cb Lowndes 02, Sellers.
Kendrick, Wm. Toulmin, mc Atlanta 76, cb Butler 78, Montgomery.
Meriwether, Thomas, mc Alabama 09, State Board 14, Pike Road.
McCrummin, Norman H., mc Vanderbilt 84, cb Montgomery 85, Montgomery.
McLean, Jas. Neil, mc Tulane 98, cb Lowndes 99, Hope Hull.

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Northhcross, David C. (col.), mc P. & S. Chi. 66, State Board 06, Montgomery.

Northcross, Daisy L. (col.), mc Dennis 13, State Board 14, Montgomery.

Naftel, St. John, mc Vanderbilt 80, cb 81, LaPine.

Pearson, Coleman Ferrell, mc Alabama 00, cb 00, Montgomery.

Poole, G. B., univ Tennessee 10, State Board 11, Sellers, R. F. D.

Purifoy, J. H., mc Reform Medical 57, Old Law, Montgomery.

Rankin, Wm. R., mc Atlanta P. & S. 01, cb Limestone 01, Montgomery.

Sankey, George L., mc Louisville 76, cb 78, Snowdoun.

Sanderson, J. L., mc Alabama, cb Jefferson 87, Montgomery.

Scott, David H. C. (col.), mc Meharry 95, cb Jefferson 95, Montgomery.

Scott, Andrew L., mc Barnes 96, cb Jefferson 96, Montgomery.

Scott, Jephtha N., mc Alabama 87, cb Jefferson 87, Montgomery.

Shackelford, Frank., mc Alabama 98, cb Lowndes 98, Hope Hull.

Thompkins, Lucien Montague, mc Tennessee 11, State Board 11, Fitzpatrick.

Van Pelt, George W., mc Louisville 70, cb —, Montgomery.

Washington, Wm. (col.), mc Meharry 06, cb Lowndes 06, Montgomery.

Wilson, Cato H., mc Meharry 99, cb 99, Montgomery.

Total, 32.

Moved into the county—L. M. Thompkins, from Pike county to Fitzpatrick; P. P. Salter, first location, Montgomery; J. W. McCall, first location, Montgomery; B. L. Arms, Texas to Montgomery.

Moved out of the county—R. N. Pitts, from Montgomery to Pittsview.

Died—W. F. Sadler, and Jno. T. Rushin.

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MORGAN COUNTY MEDICAL SOCIETY—Mobile, 1876.

OFFICERS.

President, W. M. Dinsmore, Albany, Route 2; Vice-President, A. M. White, Hartselle; Secretary, A. T. Grayson, Albany; Treasurer, A. T. Grayson, Albany; County Health Officer, M. W. Murray, Albany; City Health Officers, F. P. Petty, Albany; N. C. Bailey, Decatur; H. T. Bracken, Austinville; William Emens, Trinity; R. B. Sherrill, Hartselle; F. B. Hunter, Falkville; T. J. Russell, Somerville. Censors, F. L. Chenault, Chairman, Albany; J. W. Crow, Albany; R. B. Sherrill, Hartselle; Wm. M. Dinsmore, Albany, Route 2; T. J. Russell, Somerville.

NAMES OF MEMBERS, WITH THEIR COLLEGES AND POSTOFFICES.

Bailey, Wm. Clifford, univ Alabama 06, Dallas cb 06, Decatur.
Booth, William M., mc Vanderbilt 02, cb Limestone 03, Hartsells.
Bracken, Henry Thomas, univ Nashville 73, cb Lawrence 74, Albany,.
Brindley, T. B., mc Georgia Eclectic 91, cb 00, Hartsells, R. F. D.
Buchanan, Roy M., mc univ Tennessee 00, cb Madison 00, Albany.
Burch, John T., mc Birmingham 06, Lawrence 06, Danville.
Carswell, Fontaine L., mc George Washington 06, cb 07, Decatur.
Chenault, Calvin Sidney, mc Birmingham 97, cb Lawrence 97, Albany.
Chenault, Frank L., mc Birmingham 04, cb Lawrence 04, Albany.
Crow, J. W., mc Chattanooga 05, cb 05, Albany.
Dinsmore, David F., mc univ Louisville 72, cb Lawrence 74, Decatur.
Dinsmore, Wm. Lewis, mc Vanderbilt 81, cb Lawrence 82, Decatur.
Dinsmore, Wm. M., mc Birmingham 09, State Board 09, Albany, Route 2.
Emens, Frank, mc Louisville Hosp. Col. Med. 98, cb 98, Trinity.
Emens, William, mc Louisville 05, cb 05, Trinity.
Grayson, Ambrose Tilden, mc Chattanooga 06, State Board 06, Albany.
Greer, Hugh Dixon, mc Birmingham 10, State Board 10, Decatur.
Greer, William H., mc Grant University 00, cb Lawrence 00, Albany.
Gunter, Joseph Leon, mc Memphis Hosp. 94, cb Pickens 94, Albany.
Hunter, Felix B., mc Vanderbilt 81, cb 81, Falkville.
Lovelady, Wm. H., mc Alabama 97, cb 97, Falkville.
Murray, Michael Wm., mc McGill univ 90, cb 90, Albany.

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McRee, Hugh Clark, mc univ Nashville 98, State Board 02, Hartsells.
Petty, Frank Paul, mc Vanderbilt 92, cb Limestone 92, Albany.
Price, Chas. Wesley, mc Vanderbilt 15, State Board 16, Albany.
Roan, Avery M., mc Chicago P. & S. 14, State Board 14, Joppa.
Russell, Thomas Jackson, mc univ Alabama 04, cb 04, Somerville.
Shelton, John Benjamin, mc St. Louis 96, cb Jackson 96, Albany.
Sherrill, Richard Byrd, mc Alabama 90, cb 94, Hartsells.
Stringer, Wm. Lowe, mc Chattanooga 04, cb 04, Falkville.
Watson, Wm. Henry, mc Louisville 94, cb 03, Decatur.
White, Arthur Marion, mc Birmingham 09, State Board 10, Hartsells.
Total, 32.

PHYSICIANS NOT MEMBERS.

Cashin, Newlyn E. (col.), mc Howard 08, State Board 08, Decatur.
Darden, Deo. V., mc Meharry 13, State Board 14, Decatur.
Griffith, A. L., mc Birmingham 10 (Illegal), Somerville, Route 4.
Peck, Cicero Fain, mc Memphis Hosp. 90, cb 90, Somerville.
Sherrill, J. Homer, mc Chattanooga 04, cb 04, Albany.
Sterrs, Willis Edward (col.), mc univ Michigan 88, cb Montgomery 88, Decatur.
Turney, Joseph Simpson, mc Vanderbilt 82, cb 82, Hartsells.
Wilhite, S. M., mc Memphis Hosp. 91, cb 91, Falkville.
Wilson, Abel R., mc Alabama 85, cb Lawrence 85, Hartsells.
Total, 9.

Moved out of the county—R. B. Dodson, from Falkville to Grand Bay, Mobile county; M. F. Houston, from Decatur to Clarendon, Ark.; G. R. Sullivan, from Albany to Madison.

PERRY COUNTY MEDICAL SOCIETY—Montgomery, 1875.

OFFICERS.

President, S. A. Gordon, Marion; Vice-President, Edward Swann, Marion; Secretary, J. B. Hatchette, Marion; Treasurer, J. B. Hatchette, Marion; County Health Officer, C. B. Robinson, Marion; City Health Officer, C. B. Robinson, Marion. Censors—J. B. Hatchette, Chairman, Marion; C. B. Robinson, Marion; Edward Swann, Marion; R. C. Swann, Marion; F. T. James, Uniontown.

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NAMES OF MEMBERS, WITH THEIR COLLEGES AND POSTOFFICES.

Coleman, Solon L., mc Tulane 98, cb Marengo 99, Uniontown.
Downey, Wm. Thomas, mc univ Louisville 70, cb Hale 70, Marion, R. F. D. No. 3.
Fuller, Emmett Lee, mc univ Alabama 00, cb Dallas 01, Perryville.
Gordon, Samuel A., mc Alabama 95, cb Lowndes 95, Marion.
Hanna, Robert Cunningham, mc Louisville Hosp. Col. Med. 02, cb 02, Marion.
Hatchette, James Benton, mc Vanderbilt 90, cb Limestone 90, Marion.
James, Francis T., mc Vanderbilt 07, State Board 07, Uniontown.
Pryor, Robert B., mc Tulane 05, cb Dallas 06, Sprott.
Robinson, Cornelius B., mc Louisville 92, cb Lowndes 92, Marion.
Swann, Edward, mc Kentucky Sch. of Med. 95, cb 95, Marion.
Total, 10.

PHYSICIANS NOT MEMBERS.

Barron, Wm. Rowan, mc univ Virginia 61, cb 78, Marion.
Pou, James Rufus, mc South Carolina 55, cb 78, Uniontown.
Stewart, Chas. Jefferson, mc Alabama 94, cb Bibb 94, Heiberger, R. F. D.
Tucker, James Buchanan, mc Vanderbilt 79, cb 79, Heiberger, R. F. D.
White, Phillip Henry (col.), mc Ill. Med. Col. 04, State Board 04, Uniontown.
Total, 5.

Moved out of the county—T. J. Ray, from Perry to Selma; A. F. J. Boyd, from Perry county to Sumter county; W. T. Weissinger, Perry county to Washington, D. C.

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PICKENS COUNTY MEDICAL SOCIETY—Eufaula, 1878.

OFFICERS.

President, H. W. Hill, Carrollton; Vice-President, W. L. Dodson, Reform; Secretary, E. B. Durrett, Gordo; Treasurer, E. B. Durrett, Gordo; County Health Officer, E. B. Durrett, Gordo; City Health Officers, E. A. Snoddy, Aliceville; H. W. Hill, Carrollton; W. L. Dodson, Reform; L. C. Davis, Gordo; D. W. Gass, Pickensville. Censors—A. B. Price, Chairman, Gordo; D. W. Gass, Pickensville; W. L. Dodson, Reform; C. M. Murphy, Aliceville; S. H. Hill, Carrollton.

NAMES OF MEMBERS, WITH THEIR COLLEGES AND POSTOFFICES.

Bell, Wm. Stillman, mc univ Alabama 06, cb 06, Gordo.

Davis, John Lewis, mc Vanderbilt 91, cb Tuscaloosa 91, Gordo.

Davis, Lewis Clifton, mc Atlanta 15, State Board 15, Gordo.

Dodson, Walter Lee, mc univ Alabama 06, cb 06, Reform.

Duncan, William Wallace, mc Birmingham 00, cb Fayette 00, Gordo, R. F. D. 3.

Durette, Ebb Brown, mc univ Alabama 12, State Board 12, Gordo.

Gass, Wm. David, mc Birmingham 99, cb 99, Pickensville.

Hill, Edward Pickett, mc univ Alabama 01, cb 01, McShan.

Hill, Hugh Wilson, mc univ Alabama 04, cb 04, Carrollton.

Hill, Samuel Henry, mc univ Louisville 70, cb Tuscaloosa 78, Carrollton.

Kirk, Albert Thomas, mc Memphis Hospital 02, cb 02, Gordo, R. F. D. No. 2.

Lavender, Claud B., mc Memphis Hosp. 08, State Board 09, Reform.

Murphy, Chas. M., mc Birmingham 98, cb Greene 98, Aliceville.

McClellan, Thomas Roy, mc Memphis Hosp. 03, cb 03, Aliceville.

Parker, Sheppie Rufus, mc univ Alabama 09, State Board 09, Ethelsville.

Price, Albert Bascom, mc Alabama 98, cb 99, Gordo.

Savage, Victor, mc Vanderbilt 89, cb Fayette 89, Reform, R. 3.

Shackleford, Walter Lee, mc Memphis 13, State Board 08, Gordo, Route 1.

Snoddy, Ephriam Alex, mc Alabama 97, cb Lamar 97, Aliceville.

Spruill, George Edward, mc Memphis Hosp. 01, cb 02, Ethelsville, R. F. D. No. 1.

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Smothers, Robt. E. L., mc Alabama 97, cb 04, Dancy.
Stokes, William T., mc univ Alabama 08, State Board 10, Ethelsville.
Upchurch, Harvey B., mc Alabama 92, cb 92, Carrollton.
Walker, Audiss M., mc univ Alabama 11, State Board 11, Carrollton.
Whiteside, Hamlin B., mc univ Alabama 10, State Board 10, Lathrop.
Wimberly, Gilbert B., mc Alabama 92, cb Lamar 92, Reform.
Total, 26.

PHYSICIANS NOT MEMBERS.

Agnew, James Alexander, mc Alabama 74, cb 78, Ethelsville, R. F. D. No. 1.
Clarke, Samuel, mc ...., cb ...., Dancy.
Cook, T. H. G., mc ...., cb ...., Cochrane.
Duncan, John Francis, mc Alabama 74, cb 78, McShan.
Jones, Lee G., mc Ga. 96, illegal, Aliceville.
Moody, Joseph, mc Kentucky 71, cb 78, Aliceville.
Zuber, Thos Luther (col.), mc Meharry 13, State Board 14, Carrollton.
Total, 7.

Moved into the county—A. M. Walker, from Brent, Bibb county, to Carrollton.
Moved out of the county—R. R. Wyatt, to Mississippi.

PIKE COUNTY MEDICAL SOCIETY—Eufaula, 1878.

OFFICERS.

President, W. S. Sanders, Troy; Vice-President, L. R. Boyd, Troy; Secretary, W. H. Minchener, Troy; Treasurer, E. G. Ford, Troy; County Health Officer, J. S. Beard, Troy; City Health Officer, L. R. Boyd, Troy. Censors—J. S. Beard, Chairman, Troy; J. F. Bean, Brundidge; C. P. McEachern, Banks; J. M. Watkins, Troy; W. B. Sanders, Troy.

NAMES OF MEMBERS, WITH THEIR COLLEGES AND POSTOFFICES.

Bean, James Frank, mc Tulane 10, State Board 10, Brundidge.
Beard, James Wiley, mc Tulane 13, State Board 14, Troy.

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Beard, Josephus Simmons, mc univ New York 76, cb 79, Troy.
Beard, Robert Briggs, mc Tulane 14, State Board 14, Troy.
Boyd, Lee Roy, mc Alabama 87, cb 87, Troy.
Broach, Francis Morris, mc Atlanta 90, cb 90, Ansley.
Brown, Pugh Ulpian, mc Tulane 95, cb 95, Troy.
Crowder, John Wade, mc univ of South 04, cb 08, Linwood.
Dickinson, Robert Chas., mc Memphis Hosp. 01, cb 01, Brundidge.
Edge, Oscar Nelson, mc Atlanta Sch. Med. 10, State Board 10, Troy, R. F. D. No. 2.
Ford, Elchana Gardner, ng, cb 78, Troy.
Grant, Chas. A., mc Nashville 08, State Board 12, Linwood, Route 1.
Johnston, John David, mc P. & S. Atlanta 00, cb 01, Brundidge, R. F. D. 1.
Kyzar, J. Hugh, mc Tulane 13, State Board 13, Goshen.
Lofien, Daniel Thos., mc Alabama 97, cb Coffee 97, Troy, R. F. D. 2.
McEachern, Conley Pinkney, mc Alabama 96, cb 96, Banks.
McKnight, Thos. D., mc univ Birmingham 12, State Board 14, Brundidge.
Minchener, Will Henry, mc Baltimore 05, cb Pike 05, Troy.
Reynolds, Grover C., mc Tulane 11, State Board 11, Brundidge.
Robertson, James Wiley, mc Alabama 93, cb 93, Brundidge.
Sanders, J. Gillis, mc Tulane 14, State Board 14, Troy.
Sanders, William Bryan, mc Atlanta Southern 85, cb 85, Troy.
Sanders, William Shelby, mc Vanderbilt 92, cb 92, Troy.
Stallings, Homer Sylvanus, mc P. & S. Atlanta 02, cb 02, Troy.
Watkins, James Monroe, mc Vanderbilt 04, cb 94, Troy.
Weedon, Hamilton Moore, Alabama 91, cb Barbour 91, Troy.
Total, 26.

PHYSICIANS NOT MEMBERS.

Bean, James Monroe, mc Tulane 76, cb 83, Banks, Route 1.
Brewer, James A. (col.), Leonard 09, State Board 09, Troy.
Dennis, Solomon H., mc univ Graffenberg 58, cb 78, Ansley. R. F. D.
Ennis, Sam'l B., mc Meharry 05, State Board 05, Troy.
Lofien, Hiram Davis, mc Alabama 04, cb 04, Troy, R. F. D. 5.
Reynolds, Jas. W., mc Alabama 85, cb 86, Brundidge.
Salter, Ernest F., univ of Tennessee 98, cb 98, Perote, R. F. D.
Watson, Huey, mc Alabma 08, State Board 08, Banks.
Total, 8.

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Moved into the county—Robert B. Beard, from New York Post-Graduate to Troy.

Moved out of the county—L. M. Tompkins, from Troy to Fitzpatrick, Montgomery county.

RANDOLPH COUNTY MEDICAL SOCIETY—Eufaula, 1878.

OFFICERS.

President, A. J. Clardy, Wadley; Vice-President, J. T. Striplin, Roanoke; Secretary, W. W. Stevenson, Roanoke; Treasurer, W. W. Stevenson, Roanoke; County Health Officer, J. W. Hooper, Roanoke; City Health Officers, J. P. Liles, Roanoke; F. R. Mashburn, Wedowee; T. N. Dennnis, Wadley. Censors—H. B. Disharron, Chairman, Roanoke; J. M. Welch, Wadley; W. W. Stevenson, Roanoke; C. E. Ford, Roanoke; J. C. Swann, Wedowee.

NAMES OF MEMBERS, WITH THEIR COLLEGES AND POSTOFFICES.

Bonner, Wm. Wallace, mc Atlanta Southern 92, cb 92, Rock Mills.

Clardy, Andrew Jackson, mc Chattanooga 00, cb Clay 01, Wadley.

Disharoon, Henry Beauregard, mc P. & S., Baltimore 85, cb 85, Roanoke.

Denny, Thomas H., mc Atlanta 15, State Board 15, Wadley.

Ford, Chas. Edward, mc Atlanta 14, State Board 14, Roanoke.

Gay, Andrew Jackson, mc Chicago M. & S. 13, State Board 14, Roanoke.

Gross, Chas. M., mc univ Alabama 08, State Board 08, Wedowee, R. F. D.

Haynes, Robert C., mc Chattanooga 06, cb 07, Graham.

Hood, Joseph Robertson, mc Oglethorpe Savannah 57, cb 85, Wedowee.

Hooper, John W., mc Jefferson 84, cb Tallapoosa 84, Roanoke.

Jordan, Chas. C., mc Atlanta Southern 84, cb Randolph 97, Malone.

Liles, John P., mc Birmingham 98, Chambers 98, Roanoke.

Lovvorn, Robert C., mc Atlanta 12, State Board 12, Newell.

Mashburn, Fred Ross, mc Atlanta Southern 11, State Board 12, Wedowee.

Stevenson, Wm. Worth, mc univ Alabama 03, cb 03, Roanoke.

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Striplin, John Thomas, mc univ Georgia 99, cb 99, Roanoke.
Swann, Joseph C., mc Atlanta 90, cb Randolph 90, Wedowee.
Welch, James Madison, mc Sou. Med. Atlanta 97, cb 97, Wadley.
Wright, Columbus B., mc Atlanta 98, cb 98, Wedowee.
Total, 19.

PHYSICIANS NOT MEMBERS.

Gauntt, Elbert Tillman, mc Atlanta 76, cb 84, Lineville, R. F. D.
Taylor, Jas. Rachford, mc Atlanta 98, cb 98, Wedowee, Route 2.
Traylor, George Washington, mc univ Georgia 91, cb 94, Lamar.
Trent, P. Glover, mc Atlanta 88, cb 88, Roanoke.
Total, 4.

Moved out of the county—W. A. Hodges, from Malone to Abanda, Chambers county; F. R. Wood, from Roanoke, R. F. D., to Heflin, Cleburne county; J. W. Jordan, from Malone to Cragford, Clay county.

Died—M. D. Liles, Dingler, Nov. 20, 1915, pneumonia; Wm. Weathers, High Shoals, May 17, 1916, arterio sclerosis.

RUSSELL COUNTY MEDICAL SOCIETY—Tuscaloosa, 1887.

OFFICERS.

President, R. F. Elrod, Cottonton; Vice-President, R. B. McCann, Seale; Secretary, John Prather, Seale; Treasurer, John Prather, Seale; County Health Officer, W. B. Prather, Seale; City Health Officers, R. B. McCann, Seale; R. C. Prather, Girard; F. G. Hendrick, Hurtsboro. Censors—R. F. Elrod, Chairman, Cottonton; F. G. Hendrick, Hurtsboro; W. B. Prather, Seale; R. B. McCann, Seale; John Prather, Seale.

NAMES OF MEMBERS, WITH THEIR COLLEGES AND POSTOFFICES.

Allen, Arthur Redding, mc Atlanta 97, cb 98, Fort Mitchell, R. F. D.
Carey, James M., mc Hosp. Col. of Med. Louisville 06, cb 07, Opelika, R. F. D. (Marvyn.)
Elrod, Robert Franklin, mc Chattanooga 05, cb 05, Cottonton, R. F. D.

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Hand, Leslie M., mc Kentucky School Med. 04, cb Marengo 04, Hurtsboro.

Hendrick, Frank Gustavus, mc univ Louisville 94, cb Pike 94, Hurtsboro.

Hendrick, Walter Branham, mc univ Louisville 90, cb Pike 90, Hurtsboro.

Joiner, Wm. Thomas, mc Atlanta 91, cb 91, Pittsview.

McCann, Richard Bennett, mc Atlanta 11, State Board 11, Seale.

Mehaffey, Jonathan W., mc Birmingham 13, State Board 13, Girard, R. F. D. No. 1.

Prather, John, mc univ Alabama 09, State Board 09, Seale.

Prather, Robert Clark, mc Alabama 98, cb 98, Girard.

Prather, Wm. Butler, mc Atlanta 74, cb 88, Seale.

Williams, Ralph Chester, mc univ Alabama 10, State Board 10, Hatchechubbee, U. S. P. H. S., Washington, D. C.

Total, 13.

HONORARY MEMBER.

Phillips, Lovick Wynn, mc Tulane 61, cb 81, Opelika, R. F. D., Crawford.

PHYSICIANS NOT MEMBERS.

Morgan, D. E., illegal, Girard.

Norris, John Pinkeny, mc Atlanta 91, cb 91, Girard.

Paschal, Geo. D., mc univ New York 74, cb 88, Hurtsboro.

Total, 3.

Moved out of the county—R. G. Cary, from Crawford to Kentucky; R. W. Dowdy, from Rutherford to Covington county.

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ST. CLAIR COUNTY MEDICAL SOCIETY—Eufaula, 1878.

OFFICERS.

President, J. P. Turner, Cropwell; Vice-President, J. G. Wilbanks, Odenville; Secretary, J. L. Jordan, Ashville; Treasurer, J. L. Jordan, Ashville; County Health Officer, D. E. Cason, Odenville; City Health Officers, J. L. Jordan, Ashville; E. C. Harris, Coal City; P. G. Dunlap, Eden; J. G. Wilbanks, Odenville; J. T. Brown, Ragland; R. L. McClellan, Riverside; B. M. Clayton, Springville; R. A. Martin, Pell City. Censors—R. A. Martin, Chairman, Pell City; B. M. Clayton, Springville; W. F. Vandergrift, Branchville; J. L. Jordan, Ashville; J. G. Wilbanks, Odenville.

NAMES OF MEMBERS, WITH THEIR COLLEGES AND POSTOFFICES.

Beason, William A., mc P. & S. Baltimore 93, cb 93, Asheville.
Boozer, David Thomas, mc Atlanta 14, State Board 15, Coal City.
Brown, Jackson Tucker, mc Birmingham 97, cb 98, Ragland.
Burwell, Howard B., mc Jefferson 04, cb Bibb 05, Margaret.
Cason, Davis Elmore, mc univ Nashville 70, cb 78, Odenville.
Clayton, Bonnar M., mc Chattanooga 08, State Board 08, Springville.
Clayton, Edward C., mc Birmingham 10, State Board 10, Acmar.
Cooke, William P., mc univ of South 00, cb 07, Odenville.
Dunlap, Perry G., mc Vanderbilt 81, cb 81, Eden.
Harris, Embry Chas., mc Alabama 04, cb 04, Ragland.
Jordan, James Lafayette, mc Birmingham 11, State Board 12, Ashville.
Martin, Robert A., mc Vanderbilt 01, cb 01, Pell City.
McClellan, Robert Lee, mc Alabama 97, cb 97, Easonville.
Merriam, Sidney A., mc univ Nashville 11, State Board 15, Steele.
Roberson, John T., mc Birmingham 03, cb 03, Sedden.
Turner, James Perry, mc Birmingham 00, cb 00, Cropwell.
Vandergrift, Washington Frank, mc Tulane 80, cb 80, Branchville.
Wilbanks, J. G., mc Birmingham 13, State Board 13, Odenville.
Wood, James W., mc P. & S. Atlanta 97, cb Clay 97, Springville.
Total, 19.

PHYSICIANS NOT MEMBERS.

Gramling, A. B., mc Maryland 04, cb Etowah 04, Steele.
Gray, Jesse Olonzo, mc Sou. Med. Atlanta 93, cb Clay 94, Pell City.

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Hamilton, Walter F., mc Birmingham 07, State Board 18, Pell City.
Jones, James H., mc Georgia Eclectic 65, Old Law, Ragland.
Laney, Marcus W., mc Vanderbilt 93, cb 00, Eden.
Smart, Benjamin F., mc Birmingham 15, State Board 16, Odenville.
Scott, George B., mc Jefferson 90, cb Lauderdale 90, Ragland.
Total, 7.

Moved into the county—D. T. Boozer, from Gadsden to Coal City; W. F. Hamilton, from Jefferson county to Pell City; B. F. Smart, from Birmingham to Odenville.

Moved out of the county—J. I. Odom, from Coal City to Walker county; D. C. Bradford, from Pell City to Birmingham; J. G. Wilkinson, from Ragland to Jefferson; J. H. Martin, from Springville to Talladega Springs.

SHELBY COUNTY MEDICAL SOCIETY—Birmingham, 1877.

OFFICERS.

President, Joel Chandler, Columbiana; Vice-President, *Ira L. Miller, Calera; Secretary, Samuel D. Motley, Calera; Treasurer, Samuel D. Motley, Calera; County Health Officer, Ira L. Miller, Calera; City Health Officers, James S. Moore, Columbiana; J. C. Embry, Vincent; E. G. Givhan, Montevallo; J. F. Trucks, Helena; O. E. Black (deceased), Wilsonville; S. D. Motley, Calera. Censors—J. S. Moore, Chairman, Columbiana; E. G. Givhan, Montevallo; Joel Chandler, Columbiana; Thos. H. Payne, Saginaw; J. I. Reid, Montevallo.

*Resigned—Place filled by C. T. Acker, Montevallo.

NAMES OF MEMBERS, WITH THEIR COLLEGES AND POSTOFFICES.

Acker, Charles Thomas, mc Birmingham 00, cb 00, Montevallo.
Bains, Richard C., mc Birmingham 98, cb St. Clair 07, Siluria.
Batson, James Lucian, mc Vanderbilt 00, cb Fayette 00, Shelby.
Chandler, Joel C., mc univ of South 08, cb Etowah 09, Columbiana.
Cunningham, H. L., mc Vanderbilt 10, State Board 10, Acton.
Embry, Jerre Carl, mc Atlanta 89, cb St. Clair 89, Vincent.
Farley, Andrew J., mc Alabama 91, cb 91, Montevallo.
Givhan, Edgar Gilmore, mc Alabama 94, cb Chilton 94, Montevallo.

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Hudnall, James Roy, mc Birmingham 13, State Board 14, Maylene, R. F. D.

Miller, Ira Lee, mc Chicago Col. M. & S. 12, State Board 13, Calera.

Moore, James S., mc P. & S. Baltimore 93, cb Jefferson 93, Columbiana.

Motley, Samuel Dennis, mc Kentucky 03, cb Tallapoosa 03, Calera.

Payne, Thos. Henry, mc Alabama 96, cb 96, Saginaw.

Peck, Willena A., mc Woman's College of Baltimore 00, State Board 15, Montevallo.

Pow, John Robert, mc univ South 03, cb St. Clair 03, Maylene.

Reid, John Inzer, mc univ Nashville 06, cb Blount 06, Montevallo.

Smith, Thomas O., mc univ Nashville, ng, cb Bibb 07, Wilsonville.

Smith, Frank C., mc Birmingham 03, cb Jefferson 03, Vincent.

Trucks, James F., mc Tulane 07, State Board 06, Helena.

Williams, John Hartford, mc univ Louisville 75, cb 78, Columbiana.

Total, 20.

PHYSICIANS NOT MEMBERS.

Acker, J. W., Old Law, cb Tuscaloosa 78, Montevallo.

Arthur, J. W., ng. (illegal), Chelsea.

Atkins, James Marion, mc univ of South 06, cb Marengo 06, Calera.

Boyer, Joseph B., mc Louisville 92, cb 92, Wilsonville.

Hays, William A., mc Alabama 87, cb 87, Helena.

Hayes, Robert B., mc Birmingham 13, State Board 13, Helena.

Jones, Clyde White, mc Alabama 12, State Board 12, Boothton.

Lawley, A. J., ng., (illegal), Sterretts.

Lane, H. B., mc ....., ..., cb ...., Chelsea.

Pugh, Braxton B., mc Mobile 89, cb Clarke 89, Pelham.

Rowe, Alex T., mc univ Georgia 59, cb Lee 78, Columbiana.

Ware, John Benjamin, ng, cb Clay 88, Vandiver.

Reeves, Thos. E., mc univ South 06, cb Clay 06, Wilsonville.

Total, 13.

Moved into the county—J. R. Hudnall; Thos. E. Reeves, from Oxford to Wilsonville.

Moved out of the county—D. L. Wilkinson, from Montevallo to Birmingham; C. W. Williams, from Coalmont to Anniston.

Died—O. E. Black, Wilsonville.

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SUMTER COUNTY MEDICAL SOCIETY—Mobile, 1876.

OFFICERS.

President, A. L. Vaughan, Cuba; Vice-President, D. S. Brockway, Livingston; Secretary, W. J. McCain, Livingston; Treasurer, W. J. McCain, Livingston; County Health Officer, J. J. Scales, Livingston; City Health Officers, J. M. McElroy, Cuba; R. H. Hale, York; W. J. McCain, Livingston; J. K. Miller, Epes; R. E. Harwood, Gainesville. Censors—W. J. McCain, Chairman, Livingston; D. S. Brockway, Livingston; R. E. Harwood, Gainesville; J. P. Scales, Livingston; A. L. Vaughan, Cuba.

NAMES OF MEMBERS, WITH THEIR COLLEGES AND POSTOFFICES.

Allen, Walter Earl, mc Alabama 16, State Board 16, Ward.
Brockway, Dudley Samuel, mc Jefferson 81, cb 81, Livingston.
Deaver, Wilson Thomas, mc Alabama 15, State Board 16, Boyds.
Hale, Robert Eugene, mc Chattanooga 04, cb Cullman 04, Bellamy.
Hale, Robert Haddon, mc univ Louisville 79, cb 80, York.
Harwood, Robert Ellyson, mc Alabama 00, cb 00, Gainesville.
Hester, Forest Lee, mc univ Tennessee 06, cb 06, Coatopa, R. F. D.
Jones, Joseph Francis, mc Atlanta 01, cb Jefferson 01, Cuba, R. F. D. 1.
Lamkin, Theodore, mc Birmingham 10, State Board 10, Bellamy.
McCain, William Jasper, mc Alabama 91, cb 91, Livingston.
McDaniel, Joseph Columbus, mc Alabama 04, cb 04, York.
McElroy, James M., mc univ South, cb 02, Cuba.
Minus, Joseph A., mc Birmingham 08, State Board 08, Epes.
Scales, John Perkins, mc Louisville 97, cb 97, Livingston.
Vaughan, Amos Lemuel, mc univ Louisville 84, cb 84, Cuba.
Wren, William Joseph, mc Alabama 08, State Board 08, Sumterville.
Young, Robert L., mc Alabama 88, cb Choctaw 88, Panola.
Total, 17.

PHYSICIANS NOT MEMBERS.

Boyd, Austin Francis, mc Alabama 14, State Board 14, Emelle.
Gibbs, Jesse Augustus, mc Alabama 07, cb Sumter 07, Gainesville.
Hearn, W. T., mc Louisville 82, cb Sumter 82, York.

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Jones, B. T., mc Alabama 86, cb 86, Geiger.
Knighton, Thomas A., mc Louisville 89, cb Choctaw 90, York.
Miller, James Kearney, mc Nashville 05, cb Jefferson 05, Epes.
Moore, Ernest Abram, mc Louisville 06, cb Hale 06, Coatopa.
Oswalt, George Guy, mc Alabama 14, State Board 14, York.
Reed, John H. G., mc univ Louisville 90, cb Pickens 90, Epes.
Sprott, Robt. D., mc Tulane 02, retired P. H. S., Livingston.
Swain, Simeon Sebastion, mc Alabama 01, cb 01, Emelle.
Total, 11.

Moved into the county—W. E. Allen, from Choctaw county to Ward; A. F. Boyd, from Perry county to Emelle; W. T. Deaver, from Mobile to Boyd; W. T. Hearn, from Mississippi to York.

Moved out of the county—T. O. Hall, from Ward to Mississippi; T. G. Kimbrough, from Sumterville to Mississippi; H. B. Klie, from York to Greene county.

TALLADEGA COUNTY MEDICAL SOCIETY—Anniston, 1886.

OFFICERS.

President, S. W. Welch, Talladega; Vice-President, C. L. Salter, Talladega; Secretary, C. L. Salter, Talladega; Treasurer, D. B. Harris, Munford; County Health Officer, J. P. Chapman, Talladega; City Health Officers, B. B. Simms, Talladega; F. H. Craddock, Jr., Sylacauga; M. E. Sherrer, Childersburg; B. McLaurin, Lincoln; J. O. Handley, Sycamore; L. S. Fennell, Ironaton; D. B. Harris, Munford. Censors—C. L. Salter, Chairman, Talladega; F. H. Craddock, Sylacauga; B. B. Warwick, Talladega; D. P. Dixon, Talladega; J. P. Colvin, Lincoln.

NAMES OF MEMBERS, WITH THEIR COLLEGES AND POSTOFFICES.

Batson, David C., mc univ Nashville 05, cb Coosa 07, Gantt's Quarry.
Brannon, Wade H., mc Birmingham 10, State Board 10, Sylacauga.
Boyd, Fred W., mc univ Alabama 06, cb Talladega 06, Talladega.
Burt, William Elbert, mc Tulane 06, State Board 05, Talladega.
Casey, Walter G., mc univ of South 06, cb Marshall 06, Alpine.

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Cason, Eugene P., mc Alabama 90, cb St. Clair 90, Talladega.
Castleman, Howell Lea, mc univ of South 01, cb Hale 01, Sylacauga.
Chapman, Jesse Pugh, mc univ Alabama 12, State Board 12, Talladega.
Colvin, James Pickett, mc Kentucky School Med. 91, cb Macon 91, Lincoln.
Craddock, Felix Hood, mc Vanderbilt 95, cb 95, Sylacauga.
Craddock, French H , mc Tulane 12, State Board 14, Sylacauga.
Dixon, Duncan Patterson, mc Tulane 01, cb 01, Talladega.
Fennell, Lawrence S., mc Birmingham 10, State Board 10, Ironaton.
Handley, John O., mc Memphis Hosp. 04, cb Marion 04, Sycamore.
Harris, Daniel Blake, mc Sou. Med. of Atlanta 99, cb 99, Munford.
Hutchinson, William H., mc Chattanooga 93, cb St. Clair 97, Childersburg.
Miller Eugene S., ng, State Board 08, Alpine.
Moore, Carey W. C., mc Birmingham 13, State Board 14, Talladega Springs.
McLaurin, Bernard, mc Birmingham 10, State Board 10, Lincoln.
Naff, John M., mc Vanderbilt 85, cb Jefferson 85, Childersburg, R. F. D.
Porch, Ralph Douglas, mc univ Louisville 07, cb Tallapoosa 07, Sylacauga.
Salter, Clarence L., mc univ Alabama 11, State Board 11, Talladega.
Sherrer, Moses E., mc Chattanooga 08, State Board 10, Childersburg.
Simms, Benjamin Britt, mc Jefferson 85, cb Coosa 86, Talladega.
Simms, James Anthony, mc univ Nashville 07, cb 07, Renfro.
Warwick, Bishop B., mc Tulane 02, cb 02, Talladega.
Welch, Samuel Wallace, mc P. & S. Baltimore 93, cb 93, Talladega.
Wood, Isaac D., mc univ of South 02, cb 02, Talladega Springs.
Total, 28.

PHYSICIANS NOT MEMBERS.

Brooks, Alpheus Olin, mc Atlanta 87, cb Clay 87, Lincoln, R. F. D. 1.
Brothers, Warren H. (col.), mc Meharry 08, State Board 08, Talladega.
Brummit, W. H., mc Meharry 04, cb 04, Talladega.
Coker, W. F., ng, cb 87, Talladega.
Hill, James H., mc Birmingham 09, State Board 09, Lincoln.
Jones, Elisha Henry, univ West Tennessee 09, State Board 09, Talladega.

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Lane, Albert W., mc Atlanta 06, State Board 10, Lincoln.
Martin, John H., mc univ Alabama 99, cb Blount 99, Talladega Spgs.
Wren, Edward Bates, mc Alabama 90, cb 90, Talladega.
Total, 9.

Moved into the county—J. P. Chapman, from Florence to Talladega; M. J. Pruett, from Clay county to Talladega, R. F. D.; J. H. Martin, from St. Clair county to Talladega Springs.

Moved out of the county—A. G. Simms, from Ironaton to Alabama City; A. C. Smith, from Sycamore to Georgia.

Died—R. M. Bailey.

TALLAPOOSA COUNTY MEDICAL SOCIETY—Selma, 1879.

OFFICERS.

President, N. B. Dean, Alexander City; Vice-President, G. C. Radford, Alexander City, Route 2; Secretary, W. E. Maxwell, Alexander City; Treasurer, J. W. McClendon, Dadeville; County Health Officer, J. O. Griffin, Alexander City, Route 3; City Health Officers, W. E. Maxwell, Alexander City; E. K. Hodge, Daviston; J. W. McClendon, Dadeville; W. D. Wood, Camp Hill.

NAMES OF MEMBERS, WITH THEIR COLLEGES AND POSTOFFICES.

Allen, Larcus B., mc Tulane 12, State Board 13, Alexander City.
Banks, Michael Joseph, mc Atlanta 90, cb ...., Jackson's Gap.
Banks, Joseph Todd, mc Atlanta P. & S. 13, State Board 13, Dadeville, R. 4.
Carleton, W. G., mc Vanderbilt 82, cb 82, Dadeville.
Chapman, James A., mc Alabama 05, cb 05, Alexander City, Route 7.
Dean, Neal Baker, mc Tulane 05, cb 05, Alexander City.
Fargason, Crayton C., mc P. & S. Atlanta 04, cb 04, Dudleyville.
Foshee, Reuben A., mc Alabama 07, cb 07, Alexander City, R. F. D. 5.
Goggans, James Adrian, mc univ New York 77, cb 82, Alexander City.
Griffin, James Olin, mc Alabama 00, cb Clay 00, Alexander City, R. F. D. No. 3.
Hamner, Harper Taliaferro, mc Vanderbilt 89, cb Chambers 90, Camp Hill.

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Hamner, Lewis Herschel, mc Vanderbilt 16, State Board 16, Camp Hill.

Harlan, Aaron LaFayette, mc Alabama 86, cb 86, Alexander City.

Hart, Eugene Walker, mc univ Baltimore 91, cb 91, Dadeville. R. F. D. No. 1.

Hodge, Emory King, mc Atlanta Sch. Med. 09, State Board 09, Daviston.

Johnson, Wm. Samuel, univ Tennessee 11, State Board 11, Notasulga, R. F. D. No. 1.

Langley, W. Theodore, mc Alabama 99, cb 99, Camp Hill.

Maxwell, Wm. Elmore, mc Jefferson 85, cb 85, Alexander City.

McClendon, Jos. Wiley, mc Jefferson 88, cb 88, Dadeville.

Motley, Jos. Pendleton, mc Atlanta 86, cb 86, Wadley, R. F. D.

Newman, Samuel Harris, mc Memphis Hosp. 98, cb Chambers 98, Dadeville.

Nolen, Isaac D., mc Louisville 92, cb Coosa 92, Alexander City, R. F. D. 5.

Radford, Geo. Clements, ng, cb Clay 87, Alexander City, R. F. D. 2.

Reagan, Onslow, ng, cb 82, Alexander City.

Sanders, Andrew Jordan, mc univ Tennessee 94, cb Chambers 94, Notasulga, R. F. D. No. 1.

Shepard, Orlando Tyler, mc Gaffenberg 61, cb 82, Dadeville.

Street, Thomas Hezekiah, mc Jefferson 00, cb 00, Alexander City.

Vines, Geo. Washington, mc Tulane 72, cb 82, Dadeville.

Warren, William Allen, Alabama 85, cb Elmore 85, East Tallassee.

Wood, Wiley Dennis, mc Alabama 08, State Board 09, Camp Hill.

Total, 30.

PHYSICIANS NOT MEMBERS.

Jowers, Soloman F., mc Atlanta 85, cb Coosa 85, Elmore, R. F. D.

Coker, Robert Harold, mc univ Alabama 14, State Board 15, E. Tallassee.

Walls, J. J., mc univ of Alabama 16, State Board 16, Alexander City,

Total, 3.

Moved into the county—L. H. Hamner, first location; S. F. Jowers, from Elmore county to E. Tallassee, Route 2.

Moved out of the county—E. R. Lett, from East Tallassee to Tallassee, Elmore county; J. E. Lindsey, from Alexander City to Marshall county.

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TUSCALOOSA COUNTY MEDICAL SOCIETY—Birmingham, 1877.

OFFICERS.

President, D. W. Ward, Tuscaloosa; Vice-President, Toombs Lawrence, Tuscaloosa; Secretary, Maxwell Moody, Tuscaloosa; Treasurer, Maxwell Moody, Tuscaloosa; County Health Officer, J. J. Durrette, Tuscaloosa; City Health Officer, J. J. Durrette, Tuscaloosa. Censors—Joseph H. Cooper, Chairman, Tuscaloosa; Joseph E. Shirley, Tuscaloosa; J. Hester Ward, Tuscaloosa; Geo. H. Searcy, Tuscaloosa; T. H. Patton, Tuscaloosa.

NAMES OF MEMBERS, WITH THEIR COLLEGES AND POSTOFFICES.

Bealle, James S., mc univ of Nashville 06, cb Tuscaloosa 06, Holt.
Bell, Chas. P., mc univ of Nashville 03, cb Tuscaloosa 03, Northport.
Brown, Chas. C., mc univ of South 05, cb St. Clair 05, Coker.
Boothe, James L., mc Birmingham Med. 11, State Board 11, Buhl.
Carpenter, Burwell S., mc Alabama 05, cb Pickens 05, Yolande.
Collier, Dana M., mc Birmingham 14, State Board 14, Tuscaloosa.
Cooper, Joseph H., mc Grant 04, cb Cullman 04, Tuscaloosa.
Cork, Cornelius L., mc Memphis 04, cb Greene 04, Jena.
Davis, James F., mc Alabama 07, cb Hale 07, Tuscaloosa.
Deal, William W., mc univ of Alabama 04, cb Mobile 04, Buhl.
Durrett, James J., mc Harvard 14, State Board 14, Tuscaloosa.
Elgin, Clarence E., mc Nashville 05, cb Tuscaloosa 07, Searles.
Faulk, Wm. Mark, mc Alabama 97, cb Barbour 97, Tuscaloosa.
Fitts, Alston, mc P. & S. New York 95, cb Tuscaloosa 00, Tuscaloosa.
Grove, Lonnie W., mc Alabama 12, cb State Board 12, Tuscaloosa.
Hausman, Frank, mc Alabama 93, cb Tuscaloosa 93, Tuscaloosa.
Hardin, Samuel T., mc Alabama 14, State Board 14, Northport.
Harris, E. N., mc Birmingham 07, cb Lamar 07, Richey.
Killian, Artemus D., mc univ South 01, cb DeKalb 01, Holt.
Kirk, Arthur A., mc Alabama 97, cb Pickens 97, Tuscaloosa.
Lawrence, Toombs, mc Birmingham 12, State Board 12, Tuscaloosa.
Leach, Sidney, mc univ Virginia 96, cb 97, Tuscaloosa.
Little, John, mc Louisiana 69, cb Tuscaloosa 78, Tuscaloosa.
Maxwell, Joseph Alston, mc Tulane 09, State Board 09, Tuscaloosa.
Mayfield, Surry F., mc Tulane 96, cb Tuscaloosa 96, Tuscaloosa.

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Merriam, Geo. C, mc P. & S. Atlanta 02, State Board 02, Kellerman.
Moody, Maxwell, mc Tulane 13, State Board 14, Tuscaloosa.
Nichols, Andrew Berry Crook, mc Philadelphia 69, cb Tuscaloosa 78, Tuscaloosa.
Odom, Stanley Gibson, mc Birmingham 13, State Board 16, Tuscaloosa.
Patton, Thomas H., mc Tulane 12, State Board 13, Tuscaloosa.
Patton, Madison Knox, mc Tulane 91, cb Greene 91, Foster.
Partlow, William D., mc Alabama 01, cb St. Clair 01, Tuscaloosa.
Partlow, Rufus C., mc Birmingham 12, State Board 13, Tuscaloosa.
Rau, George R., mc univ of South 94, cb Tuscaloosa 94, Tuscaloosa.
Rice, Clarence, mc Alabama 95, cb Autauga 95, Tuscaloosa.
Searcy, James Thomas, mc univ of New York 67, cb Tuscaloosa 78, Tuscaloosa.
Searcy, Geo. H., mc univ of Michigan 01, cb Tuscaloosa 01, Tuscaloosa.
Searcy, Harvey Brown, mc univ of Michigan 07, cb Tuscaloosa 07, Tuscaloosa.
Shirley, Joseph Emil, cb Alabama 09, cb Tuscaloosa 10, Tuscaloosa.
Sommerville, James H., mc Alabama 06, cb Pickens 06, Tuscaloosa.
Ward, John Hester, mc univ of South 00, cb Tuscaloosa 00, Tuscaloosa.
Ward, D. Webster, mc Birmingham 06, cb Tuscaloosa 06, Tuscaloosa.
Wheat, James M., mc univ of Nashville 07, cb Tuscaloosa 07, Coker, R. F. D. No. 1.

Total, 43.

PHYSICIANS NOT MEMBERS.

Bell, Claud, mc Chattanooga 04, cb Pickens 04, Tuscaloosa.
Busbee, Stephen S., mc Birmingham 08, State Board 08, Berry, R. F. D.
Cannon, Daniel Pugh, mc Vanderbilt 95, cb Bibb 95, Coaling.
Christian, Jas. S., mc Birmingham 12, State Board 12, Berry, R. F. D. 2.
Collins, Herbert, mc univ South 06, State Board 07, Brookwood.
Deal, Seaborne E., mc univ of Alabama 94, cb Tuscaloosa 94, Buhl.
Doughty, Willie B., mc Louisville 96, cb Fayette 96, New Lexington.
Elliott, Joseph B., mc univ Alabama 05, cb Hale 05, Vance.
Guin, James C., mc univ of Nashville 09, State Board 09, Moores Bridge.

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Hagler, Edward C., mc univ Alabama 04, cb 04, Northport.
Hall, George Washington, mc Birmingham 14, State Board 15, Echola.
Hamner, Samuel C., mc univ of Alabama 09, State Board 09, Randolph.
Martin, Charles P., mc Vanderbilt 00, cb Bibb 01, Rock Castle.
Milner, Geo. Marvin, mc Birmingham Med. 00, cb Lamar 00, Greely.
Mills, Joel, ng, Old Law, Elrod.
Mitchell, Bruce B. (col.), mc Meharry 03, cb Lamar 03, Tuscaloosa.
McKenzie, Andrew B. (col.), mc Shaw, State Board 12, Tuscaloosa.
Norris, James Nathan, mc Nashville 09, State Board 09, Samantha.
Owens, Jno. H., mc Memphis 99, cb Tuscaloosa 99, Hagler.
Pruitt, Eba A., mc univ Alabama 00, cb Calhoun 00, Cottondale, R. 2.
Shamberger, Wm. Brantley, mc Louisville 84, State Board 84, Cottondale.
Smothers, W. J., mc univ Alabama 85, cb ..... 85, Moores Bridge.
Stewart, Oscar E, mc Chattanooga 06, cb 06, New Lexington.
Weaver, Geo. A., mc Howard 97, cb 98, Tuscaloosa.
Total, 22.

Moved into the county—C. P. Martin; Maxwell Moody; S. G. Odom; S. S. Busbee, from Walker county.

Moved out of the county—R. C. Jones, to Johns, Jefferson county; Chas. J. LeBarron, Jr.; Robbins Nettles, to Bibb County; T. Z. Canterberry; J. H. Durrette; R. R. Ivey.

Died—R. H. McGee.

WALKER COUNTY MEDICAL SOCIETY—Mobile, 1876.

OFFICERS.

President, J. H. Davis, Jasper; Vice-President, H. G. Camp, Manchester; Secretary and treasurer, J. L. Sowell, Jasper; County Health Officer (full time), C. A. Grote, Jasper. Censors, J. A. Goodwin, Chairman, Jasper; H. J. Sankey, Nauvoo; A. M. Stovall, Jasper; J. W. Miller, Cordova; W. M. Cunningham, Corona.

NAMES OF MEMBERS, WITH THEIR COLLEGES AND POSTOFFICES.

Alexander, James F., mc Vanderbilt 93, cb Colbert 94, Jasper.
Ashmore, Bryant T., mc Grant univ 01, cb Fayette 02, Eldridge.

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Auxford, Frank O., mc Atlanta 93, cb Tuscaloosa 95, Quinton.
Ballenger, J. W., Vanderbilt 84, cb Cullman 87, Carbon Hill.
Blanton, Frank, mc Grant univ 03, cb Lamar 06, Saragossa.
Busby, Elias Dempson, mc Birmingham 10, State Board 11, Parrish, R. F. D.
Camak, David Hubbard, Old Law 76, cb 84, Jasper.
Camp, Henry Garson, mc Birmingham 08, State Board 08, Manchester.
Chilton, David Houston, mc Atlanta Col. P. & S. 02, cb 02, Patton.
Crowe, Pink P., mc univ Nashville 77, cb St. Clair 78, Dora.
Cunningham, Wm. Moody, mc Vanderbilt 84, cb 84, Corona.
Davis, Daniel M, mc South. Med. Atlanta 89, cb 94, Cordova.
Davis, James Haygood, mc univ Alabama 12, State Board 13, Jasper.
Deweese, Thomas Peters, mc Vanderbilt 85, cb 85, Gamble Mines.
Gallagher, John Larkin, mc Alabama 92, cb 92, Eldridge.
Gilder, George Suttle, mc Alabama 93, cb 94, Carbon Hill.
Goodwin, Joseph Anderson, mc Alabama 74, cb 78, Jasper.
Gravlee, William L., mc univ Nashville 82, cb 82, Townley (retired).
Grote, Carl Augustus, mc univ Alabama 12, State Board 12, Jasper.
Jackson, Charles Beaufort, mc Atlanta 86, cb Tallapoosa 86, Jasper.
Johnson, Harvey Calloway, ng, cb Cullman 80, Nauvoo.
Jones, Giles W., mc Grant univ 01, cb 08, America.
Maddox, Stephen Edw., mc Grant univ 01, cb Lamar 01, Carbon Hill.
Manasco, John, mc Old Law 76, cb 81, Townley.
Manasco, Orizaba, mc Birmingham 05, cb 05, Townley.
Manasco, Titus, mc Memphis Hosp. 97, cb 97, Carbon Hill.
Miller, John Melville, mc Vanderbilt 85, cb 85, Cordova.
Moon, J. P., mc Grant univ 99, cb Cullman 00, Jasper, R. F. D.
McCalip, Edwin L., mc univ Nashville 09, State Board 10, Sipsey.
McCullar, James Alexander, mc Vanderbilt 99, cb Winston 99, Carbon Hill.
Odom, James Ivan, mc Memphis Hosp. 98, cb 01, Parish.
Odom, Jeremiah Newton, mc Atlanta 95, cb 95, Oakman.
Owens, Herndon Gaines, mc univ Alabama 08, State Board 08, Dora.
Phillips, Alfred B., mc Vanderbilt 83, cb 85, Dora.
Posey, Benj. Franklin, mc Birmingham 10, State Board 10, America.
Shackelford, Clarence W., mc Tulane 11, State Board 14, Jasper.
Sankey, Howard J., mc univ Alabama 01, cb Choctaw, 01, Nauvoo.
Shepherd, R. Herbert, mc Birmingham 10, State Board 10, Townley.

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Sowell, James Lawrence, mc Tulane 91, cb Monroe 91, Jasper.
Sowell, Walter Scott, mc Alabama 99, cb Tuscaloosa 99, Empire.
Stephenson, Hugh Watson, mc Alabama 80, cb Lawrence 88, Oakman.
Stovall, Andrew McAdams, mc Louisville 80, cb 81, Jasper.
Tait, Porter King, mc Birmingham 03, cb Wilcox 03, Dora.
Tubb, Erastus Hardy, mc Grant univ 03, cb 06, Cordova.
Thweatt, Daniel Harman, mc Birmingham 15, cb 16, Parish, R. F. D.
Waldrop, Allen Marion, mc univ of South 08, State Board 09, Cordova.
Woodson, John Landon, mc Vanderbilt 92, cb 93, Oakman.
Williams, Victor Hugo, mc Birmingham 08, State Board 07, Jasper.
York, Aaron Albert, mc Birmingham 06, cb 06, Empire.
Total, 49.

PHYSICIANS NOT MEMBERS.

Buckelew, A. M., mc Louisville univ 70, cb 86, Jasper.
Camak, David Hubbard, Old Law 76, cb 84, Jasper.
Hendon, A. L., ng, cb 75, Townley.
McCrary, Wm. J., mc Memphis Hosp. 93, cb Fayette 93, Carbon Hill.
Statum, Job Nelson, mc Atlanta Sou. 88, cb Jefferson 88, Quinton, R. F. D.
Whitney, Ollie H., mc Louisvile 90, cb Fayette 90, Carbon Hill.
Woods, R W., mc Louisville Med. 81, cb Fayette 81, Jasper.
Total, 7.

Moved into the county—D. H. Thweatt, first location; J. N. Statum, from Cullman county to Quinton, R. F. D.; R. W. Woods, from Haleyville, Winston county, to Jasper; J. I. Odom, from ..... to Parish.

Moved out of the county—R. A. White, from Dora to Wylam, Jefferson county; C. W. Shackelford, from Jasper to ....., Jefferson county; S. S. Shores, from Townley to Blount county; S. S. Busbee, from Parish to Tuscaloosa county; Samuel M. Perry, from Carbon Hill to Jefferson county; W. W. Cleere, from Empire to Tennessee; J. J. Patterson, from .....

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WASHINGTON COUNTY MEDICAL SOCIETY—Tuscaloosa, 1887.

OFFICERS.

President, Gaines C. McCrary, Wagar; Vice-President, Wm. E. Kimbrough, Jr., Chatom; Secretary, W. J. Blount, Healing Springs; Treasurer, W. J. Blount, Healing Springs; County Health Officer, J. Chason, Chatom. Censors—W. A. Thompson, Chairman, Vinegar Bend; G. C. McCrary, Wager; W. J. Blount, Healing Springs; W. E. Kimbrough, Sr., St. Stephens; J. Chason, Chatom.

NAMES OF MEMBERS, WITH THEIR COLLEGES AND POSTOFFICES.

Blake, Theodore M., mc Alabama 00, cb Baldwin 03, Fruitdale.
Blount, William James, mc Alabama 10, State Board 10, Healing Springs.
Breland, E. E., mc Barnes univ 03, cb Baldwin 03, Millry.
Chason, John, mc Louisville 05, cb 05, Chatom.
Kimbrough, William E., mc Alabama 83, cb Wilcox 87, St. Stephens.
Kimbrough, William E., Jr., mc Alabama 15, State Board 15, Chatom.
Long, Daniel J., mc Alabama 16, State Board 17, Prichard.
McCrary, Gaines C., mc Alabama 07, State Board 07, Wagar.
Palmer, Ransom Dabney, mc Tulane 86, cb Wilcox 86, Carson.
Thompson, William A., mc univ Tennessee 04, cb Baldwin 04, Vinegar Bend.
Webb, Francis Asbury, mc Alabama 81, cb 91, Calvert.
Wood, John Wesley, mc Virginia 60, cb 87, Dunbar.
Wood, Andrew J., mc Alabama 01, cb 01, Frankville.
Total, 13.

Moved into the county—A. J. Wood, from Grand Bay to Frankville.

Moved out of the county—W. B. Brewton, from Frankville to Mobile.

Died—H. C. Van Airsdale.

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WILCOX COUNTY MEDICAL SOCIETY—Eufaula, 1878.

OFFICERS.

President, P. E. Godbold, Pine Hill; Vice-President, T. W. Jones, Camden; Secretary, E. G. Burson, Furman; Treasurer, E. G. Burson, Furman; S. S. Boykin, Oak Hill.
Officer, E. Bonner, Camden. Censors—J. C. Benson, Chairman, Camden; D. F. Gaston, Gastonburg; L. H. Mayo, Pine Hill; E. G. Burson, Furman; S. S. Boykin, Oak Hill.

NAMES OF MEMBERS, WITH THEIR COLLEGES AND POSTOFFICES.

Benson, James Cook, mc Alabama 87, cb 87, Camden.
Bonner, Ernest, mc Bellevue 98, cb 04, Camden.
Boykin, Samuel Swift, mc Mobile 96, cb Mobile 99, Oak Hill.
Burroughs, Wm. M., mc univ Tennessee 91, cb Clarke 92, Pine Hill.
Burson, Ellis G., mc Alabama 06, cb Monroe 06, Furman.
Curtis, Alonzo Bittle, mc Alabama 82, cb 82, Lower Peach Tree.
Donald, Erskine G., mc Alabama 93, cb Butler 93, Pine Apple.
Fudge, Walter, mc Alabama 09, State Board 09, Lamison.
Gaston, David F., mc univ Louisiana 82, cb 82, Gastonburg.
Gibson, Albert M., mc Alabama 85, cb 88, Lower Peach Tree.
Godbold, John C., Sr., mc Alabama ng, cb 79, Coy.
Godbold, Percy E., mc P. & S. Atlanta 02, cb Marengo 02, Pine Hill.
Hope, John C., mc Alabama 08, State Board 09, Sunny South.
Jones, J. Hall, mc Alabama 12, State Board 14, Oak Hill.
Jones, J. Heustis, mc Tulane 01, cb 01, Camden.
Jones, Thos. Warburton, mc Columbia univ P. & S. 90, cb 90, Camden.
Jones, Winston B., mc Tulane 01, cb 01, Camden.
Kimbrough, Flavius Franklin, mc Tulane 89, cb 90, Kimbrough.
King, Edwin D., mc Alabama 81, cb 84, Lower Peach Tree.
Mayer, Kossuth A., mc Memphis Hosp. 00, cb 00, Lower Peach Tree.
Mayo, L. H., mc Alabama 06, cb Marengo 06, Pine Hill.
Moore, Will W., mc Vanderbilt 96, cb 96, Camden.
Moore, Zadok, mc Alabama 95, cb 95, Lamison.
McIntosh, E. L., mc Atlanta 02, cb 02, Catherine.
McMillan, Chas. H., mc Alabama 09, State Board 09, Bellview.
McWilliams, Richard C., mc Alabama 02, cb 12, Camden.
Palmer, W. B., mc Tulane 98, cb Dallas 00, Furman.

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Perdue, James D., mc univ of Alabama 13, State Board 13, Furman.
Roberts, W. P., mc Memphis Hosp. 04, cb 04, McWilliams.
Speir, Phillip V., mc Alabama 00, cb 00, Furman.
Speir, Ross C., mc univ Louisville 08, State Board 08, Furman.
VandeVoort, Horace, mc univ Alabama 10, State Board 13, Gastonburg.
Williams, Eugene E., mc Alabama 04, cb 04, Ackerville.
Total, 33.

Moved into the county—S. S. Boykin, from Ridersville to Oak Hill. J. D. Perdue, from Mobile county to Furman.

WINSTON COUNTY MEDICAL SOCIETY—Montgomery, 1888.

OFFICERS.

President, C. A. Olivet, Haleyville; Vice-President, W. R. Bonds, Double Springs; Secretary, W. E. Howell, Haleyville; Treasurer, W. E. Howell, Haleyville; County Health Officer, T. M. Blake, Double Springs; City Health Officer, J. C. Taylor, Haleyville. Censors—J. D. Lee, Chairman; Haleyville; W. R. Bonds, Double Springs; C. A. Olivet, Haleyville; W. E. Howell, Haleyville; Robert Lee Hill, Lynn.

NAMES OF MEMBERS, WITH THEIR COLLEGES AND POSTOFFICES.

Blake, Thomas M., mc univ Nashville 07, cb 07, Double Springs.
Bonds, William Riley, mc Alabma 92, cb 92, Double Springs.
Hill, Robert Lee, mc Birmingham 09, State Board 09, Lynn.
Howell, William Edward, mc Birmingham 00, cb 00, Haleyville.
Lee, John David, mc Memphis Hospital 00, cb Franklin 01, Haleyville.
Olivet, Chas. Alonzo, mc univ Nashville 06, cb 06, Haleyville.
Roden, Benjamin Wallace, ng, cb Marion 89, Haleyville.
Stephens, Millard Lafayette, mc Birmingham 09, State Board 09, Haleyville.
Taylor, Joseph Calhoun, mc Alabama 88, cb Winston 89, Haleyville.
Welborn, Thomas P., non-graduate, cb 02, Double Springs.
Total, 10.

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PHYSICIANS NOT MEMBERS.

Johnson, Wm. Perry, univ Louisville 16, State Board 16, Addison.
Snow, Wm. R., mc Chattanooga 08, State Board 13, Falls City.
Total, 2.

Moved out of the county—W. W. Cochran, to Brilliant; C. Z. Carns, to Birmingham; R. W. Woods, to Jasper; C. V. Mayhall, to Elkmont; A. E. Orton, to Pratt City; R. H. Miller, to Lamar county.

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